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FEBRUARY

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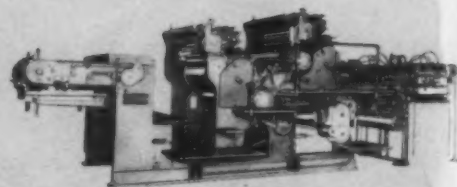
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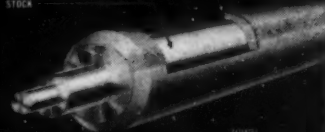


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THE PHOTO-LITHOGRAPHER

*Published in the Interests of Lithographers
to Increase Sales, Efficiency
and Quality*

WALTER E. SODERSTROM
PUBLISHER AND EDITOR

DONALD L. GUTELIUS
ASSOCIATE EDITOR

SAMUEL D. WOLFF
ADVERTISING MANAGER

Volume VI

FEBRUARY, 1938

Number 2

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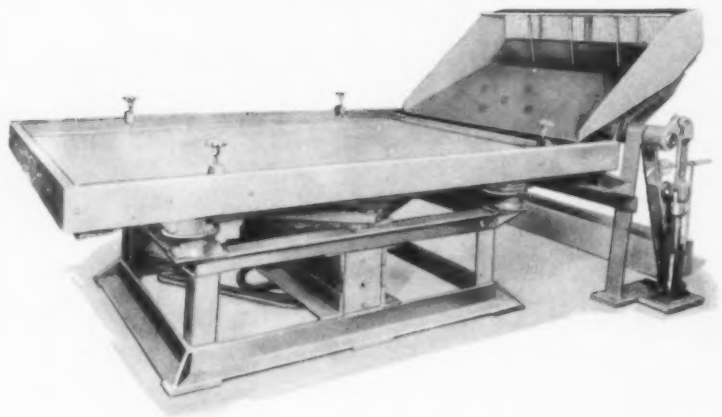
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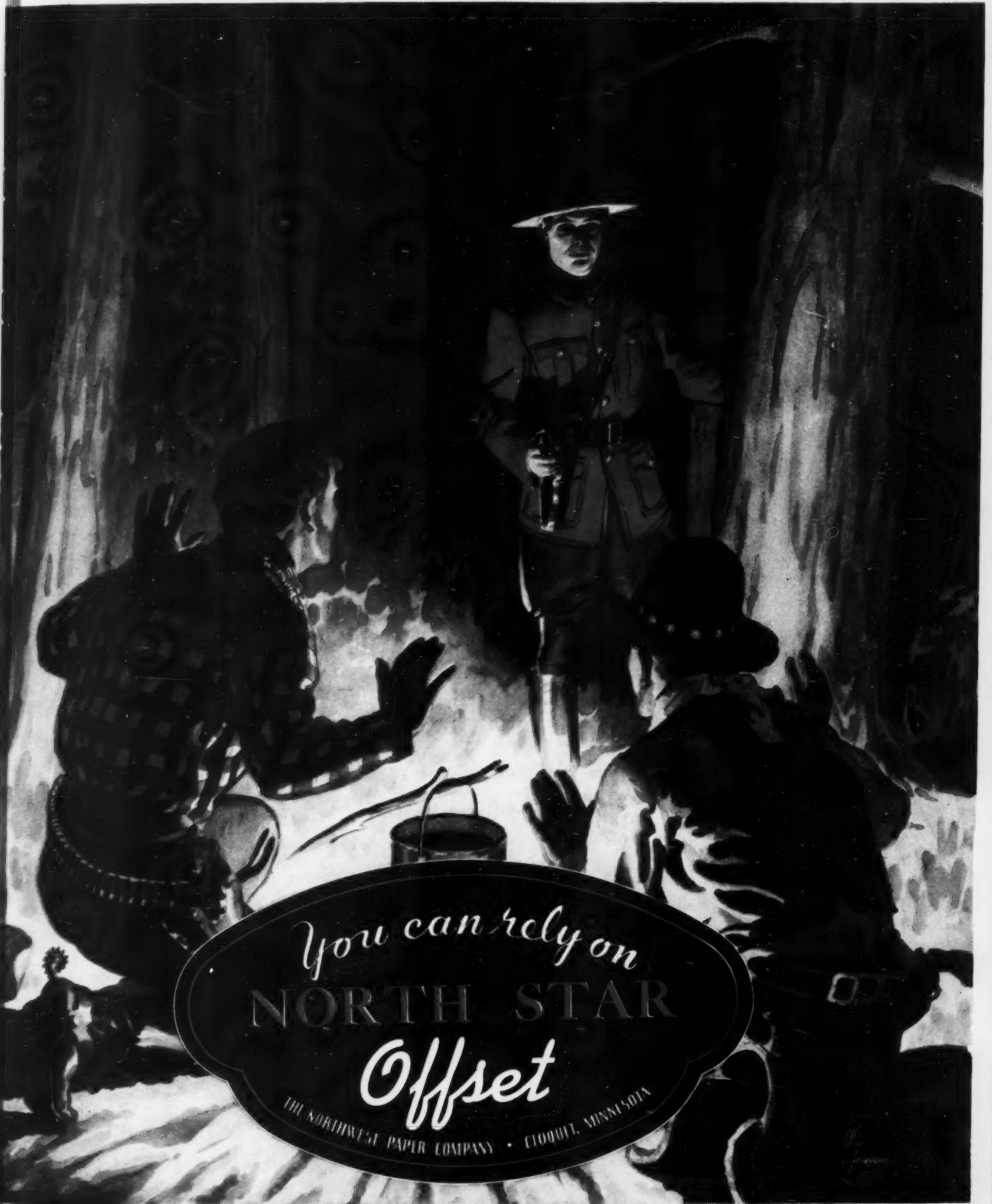
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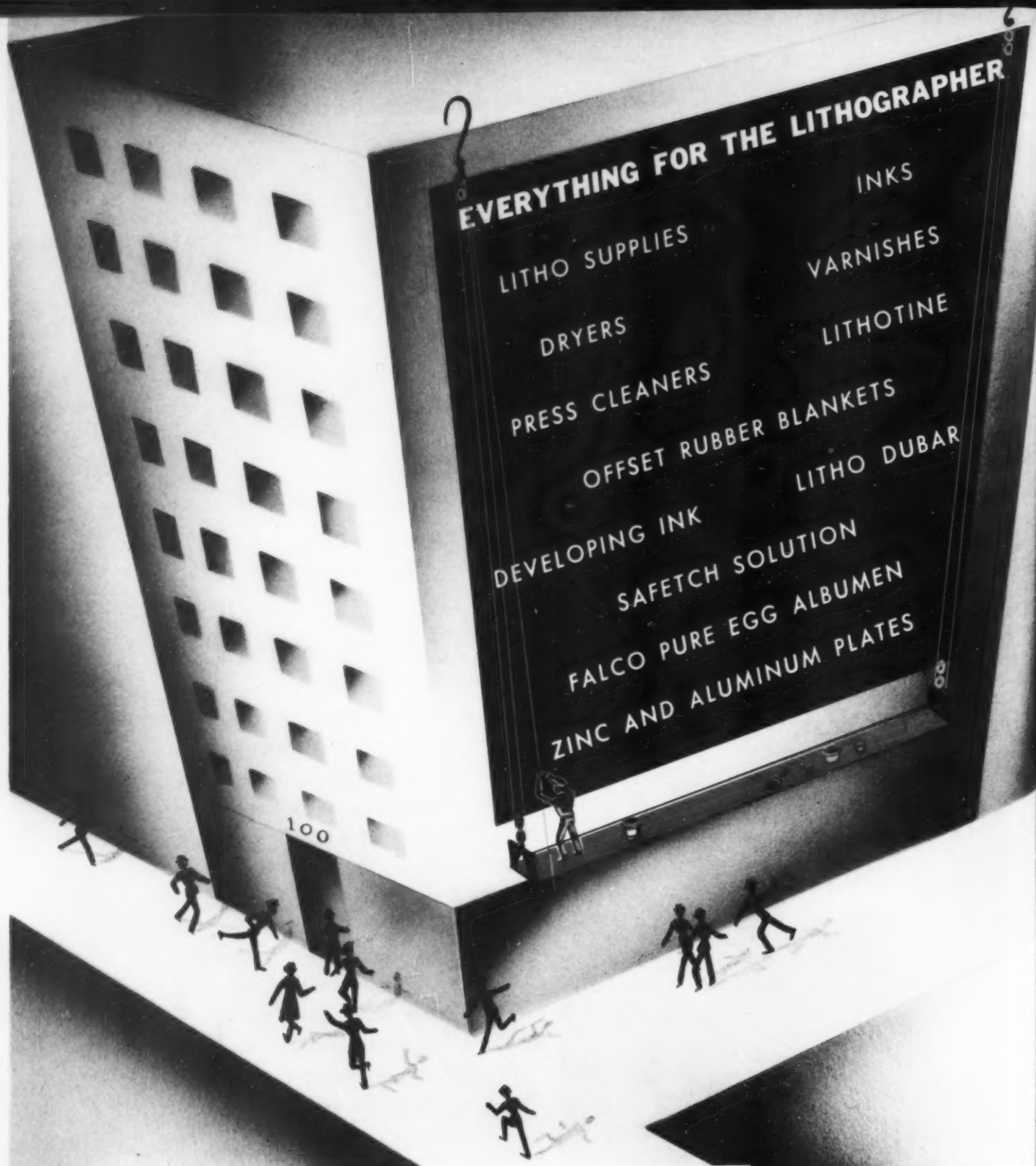
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The Photo-Lithographer, February 1938

Prepared by MELDRUM & FEWSMITH, TOLEDO

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THE PHOTO-LITHOGRAPHER

*Published in the Interests of Lithographers to Increase
Sales, Efficiency and Quality*

Volume VI

FEBRUARY, 1938

Number 2

THINKING OUT LOUD

By W. E. S.

We Are Suffering

How some firms manage to stay in business is amazing. With untrained help operating antiquated second-hand photo-mechanical and press equipment, they turn out the kind of work that does great damage to the lithographic industry.

One of the real hindrances to any industry is the junk man who unloads his rubbish on short-sighted bargain hunters.

As an instance, for years the letterpress industry has suffered from an over-abundance of second-hand equipment. This has resulted from the unwillingness of certain equipment manufacturers to tackle resolutely the job of disposing of this equipment. That it is a man-sized job is realized when it is considered that the second-hand equipment on the market represents the discards of the many progressive plants in an industry of some 30,000 printers. Such equipment is a millstone around the letterpress printer's neck.

Since the lithographic industry is made up of a far lesser number of plants, and since there are comparatively few manufacturers selling lithographic presses, it is only reasonable to hope that this industry can be protected against the second-hand equipment disease.

We would welcome any suggestions as to definite moves to be made.

An Outstanding Job

Orchids to the Toledo Lithographing Company for its part in producing the splendid brochure describing the city of Toledo.

Full of half-tones lithographed on a soft finish stock, this promotion piece should do much for Toledo.

Training Where Training Is Due

During the last thirty days many requests have come to the office of THE PHOTO-LITHOGRAPHER, asking if we could influence authorities conducting a lithographic trade school to accept for training young men who are connected with certain lithographic plants.

Most of these requests have come from lithographers who, although not cooperating with any trade association activities, are asking the lithographers who have spent much time and money building up worthwhile activities, such as trade associations and trade schools, to educate their young employees so that they can strengthen their demoralized position.

It is high time that industry benefits set up by cooperating groups of lithographers are restricted to those who belong to recognized trade associations.

The Window Display Audit

Congratulations to the Lithographers National Association and the several advertising agency groups who cooperated so whole-heartedly in setting up and carrying through to such a successful conclusion the audit of national window display circulation.

An advertising medium is on a sure foundation when advertisers can be reasonably sure of the value they receive for their advertising dollars.

Despite the fact that the report was issued only recently, advertisers already are vitally interested in it. At a luncheon meeting in the Advertising Club of New York on January 14, the accommodations were not sufficient to hold all of those who desired to hear John Paver, Manager of the Field Service Department of the National Outdoor Advertising Bureau, disclose the long, careful work necessary to get out the report.

IS QUALITY AN ENVIABLE END-PRODUCT?

By ADAM HENRI REISER

"Hmm . . . John Doc wants to come in. Let's see . . . he was a good family man, treated everybody fairly, and had good habits. But his record says that in his work as a photo-lithographer he turned out work fast, but not so good . . .



Hmm . . . guess I'll let him through the gates, but I certainly will have to tell him that we can't tolerate work of that sort here. If it's turned out fast at the Celestial Press that's fine, but it just *MUST* be good."

ARE quantity and quality compatible? Can a job be produced rapidly and yet good? Or was our friend, the mechanic in the following story, correct?

Many years ago, imported lithographers frequently were injected into one of the shop organizations about town. After a few weeks' trial of one of the new hands, the employer paid him a visit at his machine, and in not too excellent German, told him his work was satisfactory, but that there should be more of it in a given time. When the full import of the message got home, the foreigner flared up and in his perfect German replied, "Mr. —, fast and good do not live in the same house. I'm finished." And that was the last of him. He packed up.

Good and fast are not companions, was his thought. But the decision as to what constitutes quality and what constitutes quantity is often left to personal taste. What may be an appealing subject to one becomes obnoxious to another. A copy submitted by a customer may outrage all the artistic feeling and sense of color balance a mechanic may possess. And yet, that copy must be reproduced faithfully to fulfill the contract entered into with the customer.

Who, then, shall be a judge of the quality of a piece of work? It has been rather definitely established that a 75% reproduction of a copy is accepted as the law's definition of the fulfillment of contract. But, when court action is necessary to induce payment, all likelihood of repeat work goes by the board. Therefore, that eliminates the legal angle. Well, then, who are the parties interested in the product? Let's work backwards and follow a hypothetical case of a job rejection for quality.

Case History

I AM THE SALESMAN

This customer represents a good account, wants a good job, and by George, he's going to get one. Here is our chance to get in; we must match so-and-so's work if we are to get in on this account; and here, when we get a chance we foozle it. The color on this job we have just run is away off; the black is too heavy; the whole job is nowhere near the quality of work our competitor gives this customer. The job must be reprinted. The customer will not accept it. What's the matter with us? So-and-so does it. Why can't we? Our working force evidently does not know what it is all about. What kind of men have we working for us anyway?

I AM THE SUPERINTENDENT

Will a reprint be better? What's the matter with that job? I've seen worse than that get praise. A good salesman could sell that job anywhere. An excellently printed job needs no salesman. Just like throwing dollar bills out the window to run that job over again without better copy.

Will I be allowed adequate working time on the job instead of being rushed to meet a ridiculous promise? Can I print the yellow when the press is on a lighter color so that a clean wash-up is feasible in the allotted wash-up time? You know, I have to watch production time also. We can't afford to wet-nurse each job. Where will my time sheet be? Where will my production rate be? You know, I have to keep within estimated costs, or I'll soon get a

(Continued on page 64)

THE PHOTO-LITHOGRAPHER

1938

Calendars IN REVIEW

By EDWARD C. STERRY

All the calendars here commented upon and shown on the following two pages, except one, were produced by photo-offset. They clearly demonstrate the rapid strides made by photo-offset lithography in the last decade. Some of those mentioned in these columns also were worthy of reproduction but had to be omitted due to lack of space.

WASHINGTON PLANOGRAPH CO., *Washington, D. C.*—The first calendar we have seen in which there is so much "monkey business." The picture is quite unusual. The calendar is nicely designed, well printed and quite legible. We are pleased to reproduce it on the next page.

STAFFORD-LOWDEN CO., *Fort Worth, Tex.*—Your colorful calendar truly exemplifies the spirit of the West and the Lone Star State. Nothing makes a calendar more acceptable than clear, legible figures. We like the composite year's calendar without lifting the sheets.

EDWARDS & DEUTSCH LITHOGRAPHING CO., *Chicago, Ill.*—There was a time when the finest reproductions of pretty girls was done only by direct lithography. Your calendar shows that photo-lithography is surely giving other methods a "run for their money." Frankly, we have never seen any finer reproduction by any process in the graphic arts. Our reproduction on the next page does not do justice to the original.

INTELLIGENCER PRINTING CO., *Lancaster, Pa.*—When calendar wall space is at a premium your calendar should fill the bill. It is very legible and attractive. The classic border printed in a vivid peacock blue on a black background makes the whole calendar very striking.

THE HENNEGAN CO., *Cincinnati, Ohio.*—The simplicity of design in your calendar makes it very outstanding. The various color combinations are expertly chosen and well printed. The unusual round cornering contributes materially to make your calendar different. We think you have been a little too modest in displaying your name at the head of each sheet. However, such modesty may repay you well for no one would feel reluctant in giving the Hennegan calendar a place on the wall.

NATIONAL PROCESS CO., *New York.*—New York City sky line at night. A splendid photographic shot by Lopez excellently reproduced in duotone. We understand it was a prize winner in a New York display. The twelve-months-at-a-glance feature plus the unusual illustration should make your calendar worthy of a place in any office.

WEST VIRGINIA PULP & PAPER CO.—Your calendar is both very useful and interesting. The more one studies the reproduction of the painting of old Colonial days the more interesting it becomes. The colorful painting is well reproduced.

GRAY PHOTO OFFSET CORP., *New York.*—There's a lot of "calendar value" in your 1938 offering. Unusual color combinations and attractive designs give it a striking appearance. We reproduce it on page 15.

SIGMUND ULLMAN CO., *New York.*—Here's a calendar "what am" a calendar, measuring 29 x 44 inches. The excellent illustration from a painting by Philip R. Goodwin is so well done that we are afraid that many will divorce it from the calendar proper, put a frame around it and hang it in the den or library. However, those who use the calendar as intended have certainly "got something." Showing the last month of the old year is an added feature.

BROWNELL PHOTO-LITHOGRAPH CO., *Philadelphia, Pa.*—The picture on your calendar represents nice photographic composition. Being an eight-times enlargement from a kodak snapshot and reproduced in natural colors it represents a calendar rather different.

RELIABLE LITHOGRAPHIC PLATE CO., *New York.*—Your calendar has considerable advertising value. The picture displaying the physical charms of an attractive young lady should find a ready place on the wall of any lithographic establishment.

EVANS-WINTER-HEBB, INC., *Detroit, Mich.*—Of course we always expect something different from your concern. The Three Circles always "comes through." There's an air of pleasing refinement about your calendar. Fitting colors well chosen, with typography and design above reproach, give your calendar outstanding character. Your own name assumes a very modest appearance which, perhaps, is no fault.

WALLE & CO., *New Orleans.*—Delicate roses are not easy to reproduce and have them look realistic, but you've done a good job on your calendar. Substantial size figures give it plenty of utility.

NORTHERN LITHOGRAPHIC CO., *Chicago, Ill.*—The simplicity of your calendar makes it outstanding. A six-months' calendar with a return card asking for the other half of the year is indeed unusual.

EAGLE PRINTING INK CO., *New York.*—There's a lot of utility in a weekly reminder pad. Your display of colored ink specimens make the pad especially attractive. The fabrikoid cover alone would keep it on top of any executive's desk.

DEXTER FOLDER CO., *New York.*—If color makes an attractive calendar, yours has it. A calendar without an illustration is somewhat refreshing. The mottoes are especially good. We like the third dimension technique in the lettering.

TRIANGLE INK & COLOR CO., *Brooklyn, N. Y.*—Colorful indeed is the summer scene reproduced on your calendar. The vivid colors plus the silver background speak well for Triangle inks.

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DECEMBER 1937

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| NOVEMBER 1937 | | | | | | | JANUARY 1938 | | | | | | |
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| JANUARY | | | | | | | MAY | | | | | | | SEPTEMBER | | | | | | |
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| 29 | 30 | 31 | | | | |

The WASHINGTON PLANOGRAPH CO., Inc.
 1200 North Capital Street - Washington, D. C.
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BROWNELL PHOTO-LITHOGRAPH COMPANY
 100 N. 10TH ST. - PHOENIX, ARIZ.

| JANUARY 1938 | | | | | | |
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| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |



EDWARDS & DEUTSCH
LITHOGRAPHING COMPANY
Quality Reproductions of Quality
CHICAGO

| 1938 JANUARY 1938 | | | | | | |
|-------------------|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |



**IF YOU
LOVE INSTRUCTION
YOU WILL BE
WELL INSTRUCTED**

By Instructors with 100% Records of a Permanent School in Atlanta

| 1938 JULY 1938 | | | | | | |
|----------------|----|----|----|----|----|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

Dexter Folder Company, 28 West 23rd Street, New York

| JAMES GRAY INCORPORATED | | | | | | |
|-------------------------|-----|-----|-----|-----|-----|-----|
| MURRAY HILL 2-9000 | | | | | | |
| SUN | MON | TUE | WED | THU | FRI | SAT |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 8 | 9 | 10 | 11 | 12 | 13 | 14 |
| 15 | 16 | 17 | 18 | 19 | 20 | 21 |
| 22 | 23 | 24 | 25 | 26 | 27 | 28 |
| 29 | 30 | 31 | | | | |

A HANDY IMPOSITION REFERENCE

The Photo-Lithographer is indebted to Lee B. Rosenstadt, Ardlee Service, Inc., New York, for permission to publish the information that appears on this and the following two pages.

Ardlee Service have found this compilation of data concerning commonly specified sizes of folders and booklets of great value to their salesmen and estimators—so much

so, in fact, that copies of the folder in which it appears are "scarcer than hen's teeth" in the offices of Ardlee Service.

Much of the information covers facts that, at first thought, one would think should be kept readily in mind by every salesman and estimator, without the necessity of consulting a lithographed compilation. But, paradoxically,

5 1/2 X 8 1/2 BOOKLETS

No. of
PAGES

For Layout Refer
To Diagram Number

| | |
|----|-------------|
| 4 | 1 |
| 8 | 2 |
| 12 | 3 |
| 16 | 4 |
| 20 | 1 & 4 |
| 24 | 2 & 4 |
| 28 | 1 - 2 & 4 |
| 32 | 2 Plates #4 |

Separate Cover from Stock Size cuts 4 out of 20 x 26
Cover Size 8 1/2 x 11 cuts 4 out of 20 x 26
Basis 50 - 100 lbs. to 1000 sheets 20 x 26
" 65 - 130 " " " " " "
" 130 - 260 " " " " " "

1

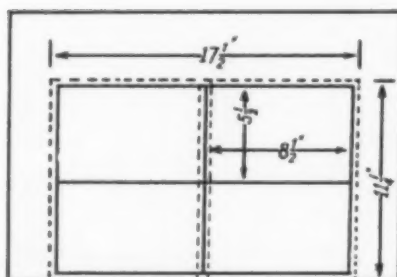


Plate Size - 17 x 22 - 4 Pgs. Print & Turn
Stock Size - 11 1/2 x 17 1/2

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|--------|--------|--------|--------|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 1.06 | 1.26 | 1.04 | 1.24 | 1.45 | 1.66 |
| 500 | 250 | 500 | 5 5/16 | 6 5/16 | 5 3/16 | 6 3/16 | 7 1/4 | 8 5/16 |
| 1000 | 500 | 1000 | 10 5/8 | 12 5/8 | 10 3/8 | 12 3/8 | 14 1/2 | 16 5/8 |
| 2000 | 1000 | 2000 | 21 1/4 | 25 1/4 | 20 3/4 | 24 3/4 | 29 | 33 1/4 |

For Long Run repeat on 17x22 plate thus printing two booklets.
The layout and stock scheme are the same as #2.

3

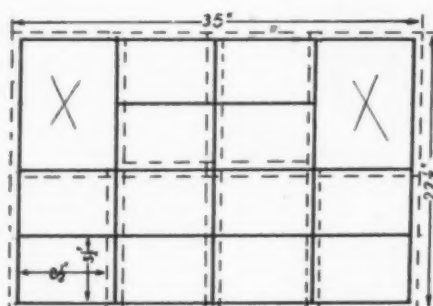


Plate Size - 22 x 34 - 12 Pgs. Print & Turn
Stock Size - 22 1/2 x 35

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|--------|--------|--------|--------|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 4.25 | 5.05 | 4.15 | 4.95 | 5.8 | 6.65 |
| 250 | 125 | 250 | 10 5/8 | 12 5/8 | 10 3/8 | 12 3/8 | 14 1/2 | 16 5/8 |
| 500 | 250 | 500 | 21 1/4 | 25 1/4 | 20 3/4 | 24 3/4 | 29 | 33 1/4 |
| 1000 | 500 | 1000 | 42 1/2 | 50 1/2 | 41 1/2 | 49 1/2 | 58 | 66 1/2 |
| 2000 | 1000 | 2000 | 85 | 101 | 83 | 99 | 116 | 133 |

2

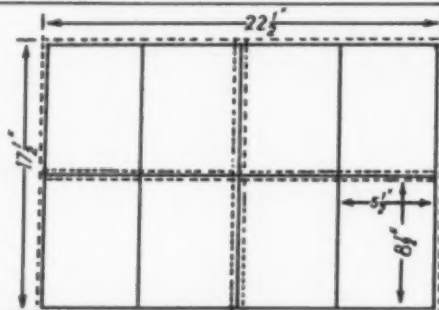


Plate Size - 17 x 22 - 8 Pgs. Print & Turn
Stock Size - 17 1/2 x 22 1/2

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|--------|--------|--------|--------|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 2.12 | 2.52 | 2.07 | 2.48 | 2.9 | 3.32 |
| 250 | 125 | 250 | 5 5/16 | 6 5/16 | 5 3/16 | 6 3/16 | 7 1/4 | 8 5/16 |
| 500 | 250 | 500 | 10 5/8 | 12 5/8 | 10 3/8 | 12 3/8 | 14 1/2 | 16 5/8 |
| 1000 | 500 | 1000 | 21 1/4 | 25 1/4 | 20 3/4 | 24 3/4 | 29 | 33 1/4 |
| 2000 | 1000 | 2000 | 42 1/2 | 50 1/2 | 41 1/2 | 49 1/2 | 58 | 66 1/2 |

For Long Run repeat on 22x34 plate thus printing two booklets.
The layout and stock scheme are the same as #4

4

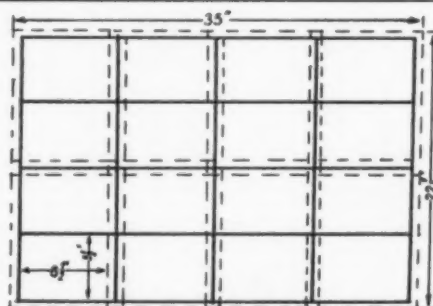


Plate Size - 22 x 34 - 16 Pgs. Print & Turn
Stock Size - 22 1/2 x 35

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|--------|--------|--------|--------|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 4.25 | 5.05 | 4.15 | 4.95 | 5.8 | 6.65 |
| 250 | 125 | 250 | 10 5/8 | 12 5/8 | 10 3/8 | 12 3/8 | 14 1/2 | 16 5/8 |
| 500 | 250 | 500 | 21 1/4 | 25 1/4 | 20 3/4 | 24 3/4 | 29 | 33 1/4 |
| 1000 | 500 | 1000 | 42 1/2 | 50 1/2 | 41 1/2 | 49 1/2 | 58 | 66 1/2 |
| 2000 | 1000 | 2000 | 85 | 101 | 83 | 99 | 116 | 133 |

A HANDY IMPOSITION REFERENCE

cal as it may seem, such facts, because they are so fundamental, sometimes are "taken for granted," and the result is a waste in stock or production that could just as well have been avoided.

The information regarding weights of stock, especially, is of value to salesmen whose customers are interested in

the important item of postage required for the mailing of a folder or booklet of a certain size. In this connection, it must be kept in mind that the weights given do not include weight of wires—a very small increase, true, but sometimes enough to throw the total weight into a higher mailing classification.

No. of
PAGES For Layout Refer
To Diagram Number

6 X 9 BOOKLETS

4 7
8 8
12 9
16 10
20 7 & 10
24 8 & 10
28 7 - 8 & 10
32 2 Plates #10

Separate Cover from Stock Size cuts 4 out of 20 x 26
Cover Size 9 x 12 cuts 4 out of 20 x 26
Basis 50 - 100 lbs. to 1000 sheets 20 x 26
" 65 - 130 " " " " 20 x 26
" 130 - 260 " " " " 20 x 26

7

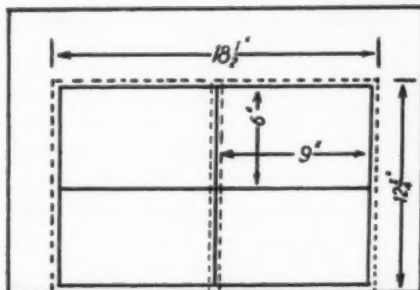


Plate Size - 17 x 22 - 4 Pgs. Print & Turn
Stock Size - 12 1/2 x 18 1/2 (out of 25 x 38)

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|--------|-------|--------|----|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 1.27 | 1.52 | 1 1/4 | 1 1/2 | 1 3/4 | 2 |
| 500 | 250 | 500 | 6 11/32 | 7 5/8 | 6 1/4 | 7 1/2 | 8 3/4 | 10 |
| 1000 | 500 | 1000 | 12 11/16 | 15 1/4 | 12 1/2 | 15 | 17 1/2 | 20 |
| 2000 | 1000 | 2000 | 25 3/8 | 30 1/2 | 25 | 30 | 35 | 40 |

For Long Run repeat on 22x34 Plate thus printing two booklets.
The Layout and Stock scheme are the same as Diagram #8

8

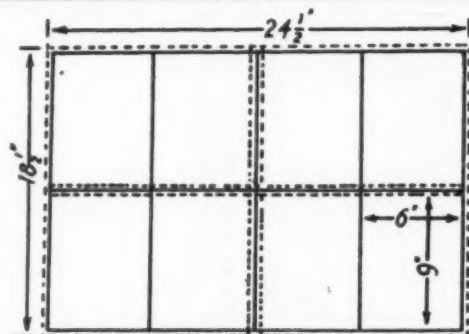


Plate Size - 22 x 34 - 8 Pgs. Print & Turn
Stock Size - 19 x 25

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|--------|----|--------|----|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 2.53 | 3.05 | 2 1/2 | 3 | 3 1/2 | 4 |
| 500 | 250 | 500 | 12 11/16 | 15 1/4 | 12 1/2 | 15 | 17 1/2 | 20 |
| 1000 | 500 | 1000 | 25 3/8 | 30 1/2 | 25 | 30 | 35 | 40 |
| 2000 | 1000 | 2000 | 50 3/4 | 61 | 50 | 60 | 70 | 80 |

9

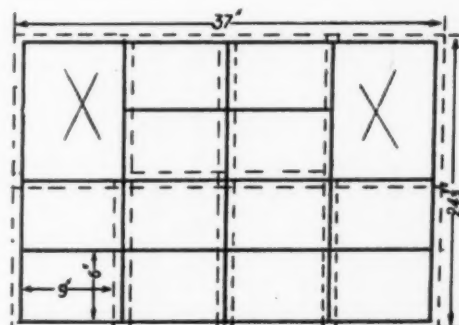


Plate Size - 28 x 42 - 12 Pgs. Print & Turn
Stock Size - 25 x 38

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|-----|-----|-----|-----|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 5.07 | 6.1 | 5 | 6 | 7 | 8 |
| 500 | 250 | 500 | 25 3/8 | 30 1/2 | 25 | 30 | 35 | 40 |
| 1000 | 500 | 1000 | 50 3/4 | 61 | 50 | 60 | 70 | 80 |
| 2000 | 1000 | 2000 | 101 1/2 | 122 | 100 | 120 | 140 | 160 |

10

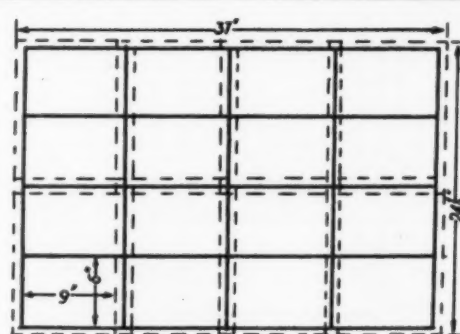


Plate Size - 28 x 42 - 16 Pgs. Print & Turn
Stock Size - 25 x 38

| No. of Bklets | Amt. Stock of Sheets | No. IMPR | WEIGHT OF STOCK IN POUNDS | | | | | |
|------------------|-------------------------------|-------------|---------------------------|--------|-----|-----|-----|-----|
| | | | 20 | 24 | 50 | 60 | 70 | 80 |
| 100 | 50 | 100 | 5.07 | 6.1 | 5 | 6 | 7 | 8 |
| 500 | 250 | 500 | 25 3/8 | 30 1/2 | 25 | 30 | 35 | 40 |
| 1000 | 500 | 1000 | 50 3/4 | 61 | 50 | 60 | 70 | 80 |
| 2000 | 1000 | 2000 | 101 1/2 | 122 | 100 | 120 | 140 | 160 |

YOUNG LITHOGRAPHERS HOLD FIRST MEETING

NEARLY one hundred men from about two score lithographic concerns gathered at the Advertising Club of New York in January on the occasion of the first meeting of the Young Lithographers' Association to participate in one of the most ambitious programs ever undertaken by a local graphic arts organization.

The walls of the three private dining rooms engaged for the occasion were covered with interesting examples of early lithography, including samples of the first color work produced on a steam press in the United States, comparisons of early twelve and fourteen color stipple work with modern four color material, ancient bock beer posters, examples of cigar box labels and bands, early tobacco advertising, and other exhibits loaned for the occasion by some of the members.

Frederick F. Jordan, vice-president of the Ralph H. Jones Company, well-known advertising agency, presented his views on the need of adoption of advertising principles by lithographers to increase the use of their products. He pointed out the lack of market survey on the part of the industry and suggested the use of co-operative publicity to popularize lithographic products.

William Huebner, head of the Huebner Laboratories, and inventor of many modern lithographic machines and methods, such as the photo-composer, vertical plate whirler, glass retouching by use of the "electric-eye," etc., made some pertinent comments as to the technological future of the lithographic industry. The implication of a letter written by Andrew Carnegie some twenty-five years ago, which Mr. Huebner read, was obvious. In his letter Mr. Carnegie had stated that his new Winton horseless carriage showed that "perfection had been reached at last in the building of automobiles and that no further improvement was conceivable."

THOMAS H. BECK,
President, Crowell
Publishing Company,
who told the Young
Lithographers he may
use lithography to pro-
duce foreign editions
of Collier's.



Thomas H. Beck, president of the Crowell Publishing Company (American Magazine, Collier's, Woman's Home Companion) gave a most interesting and entertaining description of his recent flight from San Francisco to Hong Kong and return on the China Clipper. Mr. Beck used a nine-foot square map and a number of enlarged photographs, in addition to his inimitable good humor, to illustrate his talk. Mr. Beck highlighted his description with references to the graphic arts and described the revolutionary means by which he expects to lithograph Collier's Magazine simultaneously in foreign countries all over the globe.

John L. Kronenberg, president of the Young Lithographers' Association, presided over the meeting and introduced the speakers.

An interesting annotation on the circular which was sent out to members and their friends before the meeting indicates that the word "Young" in the name Young Lithographers' Association does not refer to age, and a survey of the faces of the men present at the January meeting indicated that the program was of interest to lithographers of all ages.

There's Advertising Value in Association Membership

Members of every trade association might do an effective job of advertising by adapting to their own uses an idea of a Toronto, Canada, printer.

This printer reproduced his certificate of membership in his trade association, accompanied by the following statement:

"There is a group known as the Toronto Graphic Arts Council who are pledged to conduct their business along constructive lines. They believe that the workman is worthy of an adequate wage; they believe that work should be done under comfortable conditions; they believe that those from whom they buy are entitled to a profit; they are equally sure that they must have a definite profit on their own operations; and last, but by no means least, they believe that the customer is entitled to a square deal and that their industry should be operated in the public interest . . . using that much abused term in its highest sense. As a member of the Council we are pledged to give the customer the limit in service and value; to pay fair wages to our employees; to insist on efficient operation of our plants; and to retain our own self-respect by insisting on a fair profit on our work. We feel it is only necessary to inform you of the ideals behind the organization to have you appreciate the advantages of dealing with a member of the Graphic Arts Council."

ONE NEED OF OUR INDUSTRY

ONE of the best ways to build up a fine *esprit de corps* not only within an organization but also between organizations engaged in the same industry in a community, is to hold Ladies' Nights and other social affairs. They provide the opportunity for fellow workers to see "how the better halves live," and this contributes in no small measure to more cordial relationships between the men during working hours.

The Litho Club, of Philadelphia, fully appreciates the importance of such social affairs, judged by the enthusiasm with which over two hundred members and guests enjoyed themselves at the Club's first Ladies' Night, held at the Penn Athletic Club, Philadelphia, on the evening of January 22.

One feature of the party was a program of unusual attractiveness, lithographed in three colors by Alpha Lithograph Company, from type set by John C. Meyer & Son, on paper contributed by W. C. Hamilton & Son, and with binding by the Hartman Company.

The message of Club president, Anthony Capello, to the ladies, reproduced on the next page just as it appeared in the program, contains some thoughts that might be kept in mind by other Clubs. It is a clever way to help bring the ladies *en rapport* with the spirit of such occasions.

Following dinner, an elaborate program of entertainment, furnished by professionals, provided pleasant relief from the usual speeches. Then dancing rounded out an evening that will mark The Litho Club of Philadelphia as an organization of gifted hosts as well as skilled craftsmen.

One of the features of the evening was the awarding of prizes, donated by various equipment and supply companies.

The Litho Club of Philadelphia, considered one of the best organized litho clubs in the country, has the following officers and governors:

OFFICERS

President, Anthony Capello; Vice President, Theodore Leonhardt; Treasurer, Robert P. Inglis; Secretary, George M. Goldsmith.

BOARD OF GOVERNORS

John Knellwolf, Englebert Smith, Walter Harris, Wilson Edgar, George Kearsley, Kenneth Whitecar, Percy Rhodes, John Dieterle, Charles Geese, Herman Hansleman.

The Committee on Arrangements for the Ladies' Night also deserve mention. They were:

John Dieterle Chairman, A. J. Abrahams, John King, Kenneth Whitecar, Charles Geese, George Kearsley, Englebert Smith, Howard Conlan, Roy Bensing.

More Ladies' Nights!

especially when they are such jolly occasions as this Ladies' Night, held by The Litho Club of Philadelphia.



There are a number of active Litho Clubs throughout the country, but there are still some important lithographing centers that do not have the benefit of such organizations. These communities of lithographers are losing the great benefit of the "Share Your Knowledge" cooperation that litho clubs make possible.

One of the best informed technical men in the lithographic industry recently remarked in the course of a convention address that he had obtained some of his most valuable ideas in meetings held by litho clubs. The opportunities such meetings provide for full discussion of the many problems arising in every shop, he continued, encourage most effectively the sharing of knowledge, which is the keystone of most organizations of this nature.

Some clubs have sustained the interest of their members and encouraged full turn-outs at every meeting by preparing in advance programs of papers and topics for discussion, covering periods as far in advance as three months, or for three meetings. Such programs, with copies sent to each member, contain the names of the members who have consented to prepare papers, or lead discussions.

Such a long-range plan encourages members, especially those working in the same plant, to discuss the pros and cons of each subject announced. In this way they prime themselves with enthusiasm, and plenty of questions to be asked at the meeting. There is little chance for dull moments in any meeting when a carefully planned program is worked out and announced to all members in plenty of time beforehand.

And—it might be added, Ladies' Nights and other occasional social affairs, especially when they are as carefully planned and as cleverly carried out as the Ladies' Night held by The Litho Club of Philadelphia, add the welcome divertissement from the serious sessions held for discussion and technical cooperation.

The Photo-Lithographer will be glad to receive information about other Litho Club meetings that have been conducted along unusual lines, and suggestions for making such meetings more interesting to the members.

THE PHOTO-LITHOGRAPHER

Checking the Credit Chiseler

ONE of the many benefits of membership in a live local trade association is the availability of up-to-date credit information.

Such information, obtained by a member before putting a new account on his books, will put him on his guard against many types of "chisellers," including those who, in spite of their questionable methods, may have been able to get good credit ratings in general rating books.

A common type of credit "chiseler" is the customer who deliberately gets behind in his account, probably owing for several months' billings. Then, brought to book by the lithographer, he will pay his current monthly bills promptly, but will neglect to pay the large accumulated amount.

The lithographer, in his desire to keep this type of customer on his books, especially when times are a bit slack, is loath to bring up the matter. The consequence

is that the customer is enjoying the use, without the payment of interest, of the lithographer's money; furthermore, he is, indirectly, being financed—at least to the extent of the amount owed—by the customers who pay their bills promptly.

One likely remedy for such a condition can be found in close cooperation of all lithographers in any community in a local trade association. Then the lithographer whose credit extension is being so flagrantly misused, need not put up with such annoyance because of fear that the account will be placed with another lithographer.

With common agreement as to how such a customer is to be handled, the customer himself is "put on the spot," with no choice other than to mend his ways and to stop a chiseling practice that in many other lines of business would not be tolerated.

The following message from President Capello, of The Litho Club, Philadelphia, which was part of the program for the recent Ladies' Night, was a great help in making the ladies feel at home.



HOW'DY GALS!

From the President . . . to the Ladies

It is not often that we in the lithographic trade have the opportunity of gathering together for the sole purpose of having a good time. We rarely have the chance to meet the wives and sweethearts of our fellow tradesmen, but when we do we want our meeting to be as joyful as we can possibly make it. To that end we have arranged this little party. We sincerely hope that you will enjoy your stay with us.

You might be interested in knowing what your husband or boy friend does when he tells you that he is going to attend a Litho Club meeting. Well, in a few words, he is attempting to better himself through his association with his contemporaries. He is attempting to learn the latest developments in his craft and he is cementing friendships that should stand him in good stead throughout his lithographic career.

The aim of the Litho Club is to better the trade in which your "bread winner" is working. Our meetings are, we hope, instructive. They are designed to help increase the knowledge of those who attend, so that their efficiency and earning power will be increased. So in the end you, too, will benefit through increased happiness and the acquiring of things material. Our best wishes go to you and all of the trade for prosperity and general well being in 1938.

ANTHONY CAPELLO.



Copy Slants IN LAYOUTS

HELP BRING IN ORDERS

By EDWARD C. STERRY

WHAT do you buy in an automobile? Steel and rubber? No. You buy transportation, speed, comfort, safety, appearance. Do your customers buy just paper and ink when they buy lithography? They shouldn't. You should see that they get printed literature built around sales appeal, attractive appearance. In short . . . salesmanship on paper.

Here and there methinks I hear a voice: "What do you mean? The customer furnishes the copy, we shoot it, print it and deliver the job. What more is there to do?"

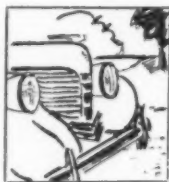
Of course, it depends on what more you want to do; how much service you want to render, and, incidentally, how much you want to add to the black side of the ledger. If you are satisfied with the run-of-mill black-and-white straight offset at so much for the first hundred, then there's nothing much to be done about it. However, such a program will constantly be subjected to price-cutting, and too often results in red figures on the ledger.

It is true that many jobs in a small plant must be handled as straight-run production and offer no opportunity other than simply print as is and deliver on time. And by the same token there are an equal number of photo-offset jobs that require re-vamping and dressing up. If your layout suggestions (see illustrations) are purely creative and your prospect gives you enough "rope" be sure to indicate display lines with appropriate copy slants. They don't have to be written in the "King's English" but they do help sell the idea better than lines or masses indicating display. Compare the two illustrations at the top of the next page. Which is the more interesting? Even though you may not "hit it just right" from your customer's viewpoint, it offers him some constructive help in building a piece of literature.

The more a layout man knows about a product the more intelligent display lines he can put into a layout. But you don't have to delve into a lot of history or research work to write snappy headlines. A five-minute conversation with a man who knows the goods will give a layout man all the display line material he needs. The style of layout shown right top page is sufficient to show the basic structure of the design but is not very helpful in

STURDY ENGINEERING

WITH *Enchanting Beauty...*



VAUGHN *Juvin* 8

assisting the customer to visualize what he may expect in the finished piece.

In selecting captions and headlines, the front side of a mailing piece should always arouse curiosity and lead the reader to the inside. And, of course, when building a photo-offset piece don't hesitate to suggest reverse lines, Benday effects, and anything that cannot be done by letterpress except

through the use of engravings. Note in the center illustration how the layout ties up with the copy thought. The treatment gives decided emphasis to both words "Hold" and "Everything." The angle gives the layout a modern flavor, while the "screamer" in an upright position suggests "stop" or "hold." The bottom of the exclamation point lining up with the name makes the admonition complete. . . "Hold Everything, Mr. Smithers."

There are plenty of offset pieces that are utterly lacking in sales appeal and advertising value simply because they were prepared by one who was not sales-minded. And many of these pieces are literally and often actually dumped in the photo-lithographer's lap with the request to "fix it up and make a good piece out of it."

Not all mediocre copy must be completely rewritten in order to do a selling job. Quite often a snappy headline, a few "punchy" subheads, the addition of a line of display here and there, or a clinching closing paragraph will create reader interest and result in action.

Then, too, headlines, subtitles and even captions make a layout much more attractive and more interesting than merely indicating such material by lines and masses. Of equal, if not of more importance, is the matter of illustrations. Every layout man should have access to a morgue . . . a subject to be discussed in a later article. When the layout is purely speculative or tentative it is much better to indicate illustrations through clippings pasted on the layout rather than leaving the space blank.

No lithographer should overlook the opportunity of helping his customers prepare advertising pieces. This does not necessarily mean the employment of a highly trained advertising staff. A good salesman or layout man with a flair for words can often put a lot of "steam" into an advertising piece. Copy slants in layouts DO help bring in orders.

PAPER COMPANIES PROMOTE EDUCATION

OF inestimable value to lithographers is the wealth of attractively presented educational material issued by the leading paper companies. An outstanding example is Westvaco Inspirations for Printers, published by The West Virginia Pulp & Paper Company.

On the facing and one other page are fac-simile portions of an article from No. 108 of the Inspirations (slightly reduced to fit our pages.)

These excerpts are carried in The Photo-Lithographer to suggest to lithographers how highly informative material can be presented to their customers in an interesting way.

Some of the material issued by other paper companies, of similarly high educational value, will be covered in future issues of The Photo-Lithographer.

HOW TO IDENTIFY LETTERPRESS PRINTING

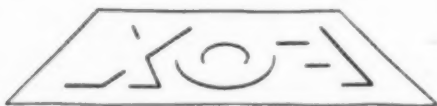


Although many persons are in the habit of identifying letterpress printing by its crisp, sharp impression, this test is nowadays far from foolproof. Not only has the letterpress printer learned to print color process illustrations of the proper screens on antique paper with an artistic softness very much like that of offset, but the offset printer can produce, especially from deep-etched



plates, an effect quite as crisp and brilliant as that of letterpress.

Notwithstanding the difficulties involved, the customary test for the identification of letterpress printing is impression. If by running your fingertips lightly over a printed sheet you can feel the unevenness of the paper surface owing to the pressure of letterpress plates, you may be sure that the printing has been done by letterpress. No other method of printing leaves a raised impression on the reverse side of the paper, so that when it is noticeably present the test is reliable. Frequently, however, im-

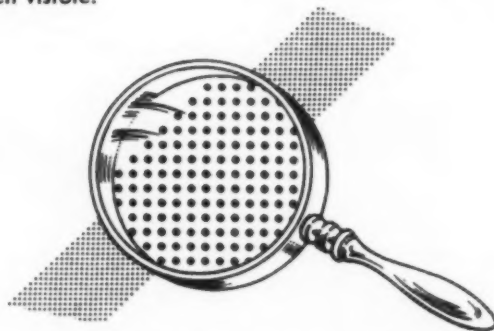


pression is not noticeable, and this is sometimes baffling in making the test. For one thing, some kinds of paper, especially the smooth-finished papers so generally used for halftones,

show so little impression when the presswork is good that it is often hard to detect, since it is the constant aim of skilled printers to avoid the appearance of impression.

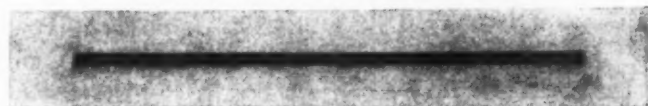
In making the feel-test for impression be sure that you are really feeling impression and not merely the natural texture of the paper.

When impression cannot be readily felt it can often be seen by looking toward a strong light at the reverse side of the paper held flat, at eye level. The faint shadows of the impressed parts are then visible.



There is still another test for letterpress printing, and this calls for the use of a magnifying glass. If, upon examining a printed sheet under such a glass, the center of the dot of a halftone illustration is light while the outer rim or edge is a darker shade, it is safe to say that the printing has been done by letterpress. It is well to add that these indications are most apparent on smooth-finished papers.

HOW TO IDENTIFY OFFSET LITHOGRAPHY



Offset lithography can usually be most easily identified by a process of elimination. To begin with, type matter in offset

(Continued on page 62)

LETTERPRESS

1. Typesetting



2. Makeup

(Assembling type and inserting engravings)



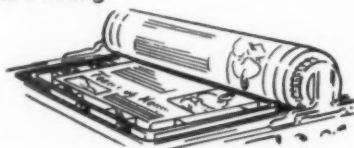
3. Lockup for foundry or press*



4. Makeready



5. Printing



*There are often two additional steps in relief printing, namely: electrotyping and press lockup of these plates.

OFFSET

1. Typesetting



2. Makeup

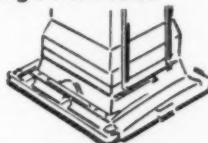
(Allowing space for illustrations)



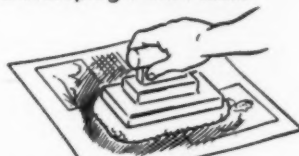
3. Assembling negatives of type and illustrations into page form



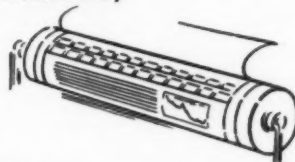
4. Printing Press Plates



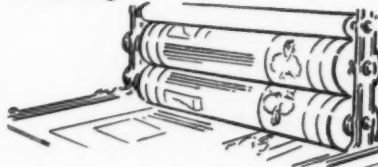
5. Developing Press Plates



6. Makeready



7. Printing



GRAVURE

1. Typesetting



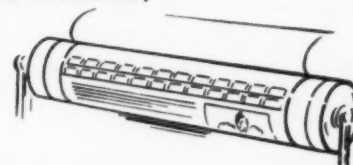
2. Makeup

(Allowing space for illustrations)

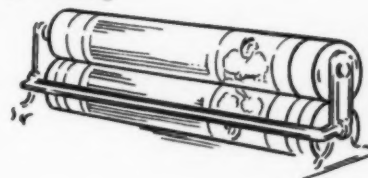


3. Steps in making gravure cylinder are the same as those described in the four steps in Westvaco Inspirations No. 104 and the three steps in No. 106

4. Makeready



5. Printing



LENGTH OF TIME AND COST NOT INVOLVED

The graphic presentation of basic operations in the several printing processes which we have published necessarily do not picture either the length of time involved or the cost of doing the work. One process may take longer than another even though the basic steps are fewer. In all cases of printing production that process should be selected which is best suited to the job in hand.

LINE AND HALF-TONE NEGATIVES

By THEODORE S. HILLER

(Continued from the January issue)

Theory of Screen Action

Although recent research has shown that many original ideas relating to the function and the use of the half-tone screen were erroneous, the tenets of three important theories on this subject still persist. The theories are briefly stated as follows:

F. E. Ives formulated his theory in 1884 and claimed that each aperture of the cross line screen acts as a pin-hole lens, thereby forming a vignetted image of the lens aperture on the negative.

Max Levy made such statements as to convey the theory that the half-tone screened negative is the result of the diffraction of light from the edges of the screen apertures or screen lenses. He attempted to point out that without some deflection of light the dots would only vary in opacity rather than in size and shape. This theory was further investigated and approved for use by such men as Burton in 1895, Gamble in 1897, Ray in 1902, Grenell in 1922, Fruwirth in 1930.

Fruwirth's work on the Diffraction Theory of Half-tone, with editorial comments by J. S. Mertle, is probably the most thorough and definite printed result of any investigation in connection with the theory of half-tone screen action and its practical use.

The third theory which is generally known as the penumbral theory was originally promulgated by Dolland and Tallent and later by Deville between 1895 and 1896. The basic thought in their theories centered around the idea that the screen lines cast an indistinct shadow (penumbra) on the sensitive medium. Such shadows are lengthened or reduced in proportion to the intensity of the light reflected from the original. Fundamentally, the penumbral theory is based upon the assumed propagation of light pencils in straight lines through the ether.

Fruwirth, in his Diffraction Theory of Half-tone, differs with the penumbra theory, by asserting that the propagation of light in straight lines is only conditionally true. He further claims that light bends around corners and the four edges of a screen aperture deflect a solid beam of light which is microscopically broken up into separate bands of varying intensities, known as interference bands.

Fruwirth's Diffraction Theory of Half-tone

Included in his deductions, Fruwirth points out some very definite conclusions on the properties of the half-tone screen. Primarily, the screen does possess lens-like characteristics.

1. Every screen has a definite focal length, just as every lens has an assigned focal length. The following are

the focal lengths of the most common screens when using blue light 486 m. u.

| | | | | | | |
|----------------|------|-------|-------|-----|------|------|
| Line screen | 100 | 110 | 120 | 133 | 150 | 200 |
| Focal distance | 7/16 | 23/64 | 19/64 | 1/4 | 3/16 | 7/64 |

Accordingly, he advises that this focal length be adhered to when adjusting the screen distance, in order to produce the sharpest dot on the negative.

2. Every screen has a speed ratio, causing fine and coarse line screens to differ greatly. Such screens as the 50, 65, 80, 85, and 100 lines are considered slow when compared to the finer ruled screens, as the 120, 133, 150, 175 line types. This difference in the speed of screens can be depicted by comparing the squares of the sizes of the apertures of the screens. A 100 line screen is therefore four times slower than a 200 line screen. Similarly, the power of the screen can be shown according to the F system just as the power of a lens is shown. As the power of a lens is obtained by dividing the diameter of the largest stop into its focal length, the power of a screen can also be determined by dividing the focal length by the dimension of one of its sides. The power of a 120 line screen is written as follows, since its focal length is

$$19/64 : 1/240 = F/71 \text{ approximately.}$$

3. The half-tone screen can further be compared to a lens because of its variation of focal distance with each change of camera extension, just as the camera extension changes with each change in copy distance. Because of the extremely short focal length of the screen no adjustment is necessary in screen distance, regardless of the camera extension or copying size.

4. In only one respect does the half-tone screen differ from the lens; namely, in its lack of correction for color aberrations. This lack of color correction in the screen necessitates an adjustment in screen distance when various filters are used and variations in the wave lengths of light exist. This adjustment can be compensated for through mathematical calculations.

All screen action is based primarily on a proportion which exists between the lens aperture and camera extension and the screen aperture and the screen distance. The above properties of the half-tone screen as presented in Fruwirth's work will aid the practical operator of a half-tone photo-offset camera to understand more fully the theory connected with the action of his screen. He will be better able to standardize his working procedure and thus produce more uniform results. Although a number of methods for finding the proper screen have been presented, it must not be overlooked that when all of the variables of the screen are understood and some attempt is made to standardize them, more uniform negatives will come from the camera department.

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For Photomechanical Reproduction



KODALITH Film is uniform . . . reliable. It handles fast and easily, just as it comes from the package. And there's a type that will produce with maximum photographic efficiency every film job you have in the house.

Your Graphic Arts dealer can supply you promptly with the non-stripping Kodalith Films listed and described below. (For all jobs requiring stripping, use *Kodalith Transparent Stripping Film*.)

KODALITH ORTHOCHROMATIC FILM Nonhalation backing facilitates fine line or halftone work. Can be used with Wratten Filters on some types of colored copy. Standard sheets, and rolls up to 48" wide.

KODALITH HALFTONE FILM Complete tone gradation and superior halftone range assure consistently fine negatives. Adapted to dot etching. Supplied in standard sheets, and in rolls up to 40" wide.

KODALITH REGULAR FILM For producing black-and-white negatives in extreme high contrast from ordinary types of copy. Thin, "safety"-type base. Dries quickly . . . holds size closely. Supplied in standard sheets, and in rolls up to 40" wide.

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STUDIES IN SALES MANAGEMENT

For Administrative Heads and
Ambitious Salesmen

By WILLIAM WOLFSON

Part Three



Just being a good fellow, with lots of contacts, is only one requisite of the successful salesman of photo-lithography. It is essential, as Mr. Wolfson points out, that he have enough practical knowledge to "stand on his own feet" when confronted with simple production problems.

RARELY is the sales force of a photo-offset lithographic house a truly homogeneous and harmonious body. Rather it is a heterogeneous group, each member differing from his mate not so much in basic selling ability perhaps, as in the possession of essential knowledge which should be the common property of all.

Just how much a salesman should know is hard to state. Much depends upon the individual. Were I called upon to set down a definite ruling, so far as salesmen are concerned in conjunction with their work of selling the services and the production of a photo-offset lithographic plant, I would give the following:

The salesman should be self-sufficient.

There you have it in just six words.

But this measure of ability to produce is not as simple as it seems. In fact, it will require all the space allotted to me this month to explain this principle.

Much depends upon the individual salesman—his previous training and record, his characteristics, his knowledge, his perception.

Take, for example, a man who has sold something to key executives of companies who can use photo-offset lithography. Assume he knows nothing about technicalities, but because of his good contacts gained by previous experience, can get big orders.

He cannot estimate, and must bring in specifications. These specifications cover all manner of jobs. If his house is qualified to produce practically everything in the way of broadsides, booklets, color and color process, and it is known to be among the leading plants and reputable, the salesman may be able to secure a fine volume of business. True, someone must figure jobs, someone must follow through on the orders; perhaps call on the accounts and discuss matters of production; but the business, in dollars and cents, justifies surrounding this salesman with people who must put in time on the orders he is able to secure.

Such a salesman need not bother his head about technicalities; he need not study and learn all he can about his proposition; and all he should do is to make his previous contacts pay his house and himself handsome dividends. Unfortunately, many salesmen of this kind are hired under the impression they can produce—but they do not. The house hopes they are just the type described, and capable of pulling down the orders. Usually because of such hopes, they are given pretty liberal drawing accounts. However, a producer of this order is self-sufficient in his own fashion, hence the standard of self-sufficiency given is a proper measure. If the wrong man is stacked up against this standard of measurement, and does not make good, the house took a chance and lost. Indeed, it is difficult to predict what the outcome will be with such men. To foretell whether a salesman of this classification will prove self-sufficient with a photo-offset lithographic house cannot be done in ninety-nine cases out of a hundred. The desirability of having such a man on the selling staff is alluring, however, and the heads will take another chance ever so often. What is peculiar is that a man might fail to produce with one photo-offset house, and succeed with another!

All that can be done is to exercise greater care and judgment when a salesman of the type outlined is selected. What then transpires is dependent on chance.

We jump all at once to the general body of salesmen who cover their drawing accounts. Whether or not they are getting all the business from their customers is always doubtful. Whether it pays to credit them will all the names of prospects they bring in and record in their name is also questionable. *They are self-sufficient so far as they go.* But they may not go far enough. Usually, year in and year out the amount of business they obtain is about the same. Some cannot go further. Others can be developed. How to handle this type of salesman will be discussed in subsequent installations. Please remember that the men under discussion here are modest producers. They may bring in one thousand dollars worth of business monthly, or two thousand, or even three. Now and then they spurt ahead, only to fall below their general average. On the whole, they maintain a certain volume.

There remains another class of salesmen, who are not self-sufficient. They get an order now and then, sometimes

*For smooth-
running jobs
that please
your customers
choose
**HAMMERMILL
OFFSET***

**JACK, WE SHOULD PRINT MORE
OF OUR JOBS ON HAMMERMILL
OFFSET. IT SAVES MONEY IN THE
PRESSROOM**

**IT'S O.K. WITH OUR
CUSTOMERS, TOO. JONES
WAS TICKLED WITH HIS
BROADSIDE. HE'S ALL SET
FOR ANOTHER JOB**

TO HOLD your customers, you must deliver good work. To end up with a profit, you must have smooth pressroom operation.

Hammermill Offset helps you please your customers with brilliant color effects. These clearer impressions cost you less money, too, because the ink stays on the surface of the well-closed, compact, surface-sized sheet.

Press time is saved with Hammermill Offset because it is made free from fuzz, lint or loose fibers. There

is less time out for washups and less danger of ruined plates and blankets.

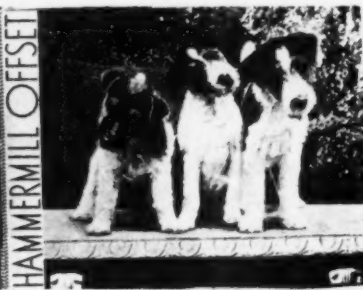
You will get better work because of more accurate press register in winter or summer. Every Hammermill paper machine is equipped with an automatic electronic control of the moisture content of the finished paper—a protection against curling, waving, shrinking, stretching, wrinkles and

costly feeding troubles.

Hammermill Offset special finishes are distinctive because they are alike on both sides, permitting the economy of work-and-turn press runs.

Send the coupon today for the Hammermill Offset Demonstration Book and see for yourself the fine work possible when you print on this justly popular paper.

MAIL THIS COUPON FOR 1938 PROFITS



Hammermill Paper Company, Erie, Pa.

Please send me the Demonstration Book of Hammermill Offset showing reproduction possibilities and range of colors and finishes.

FL-Ps

Name _____

Position _____

(Please attach to your business letterhead)

an order worthwhile. They appear to work hard and luck seems to be against them. Even when their drawing account is adjusted, so they get merely carfare and lunch money weekly, the business obtained does not justify the small stipend given them. The funny thing is that they appear just about to break through.

Permit me to detail one of such cases. The salesman in question was of good physical appearance; well educated; in his thirties; married; a good talker; on the face of it a hard worker; he had been in the employ of another photo-offset house.

He requested that I call with him on one prospect who was considering a catalogue of some twenty-four pages. Inasmuch as this was a three color job (simple color application, the salesman stated) he wanted me to act the role of production man and to inspect the job contemplated.

We made the call. The prospect showed us catalogues of competitors in color process by letterpress. Such work he realized was too costly for them, and he wanted something less expensive. Our salesman, he informed me, had suggested a job in three colors; and it was this job he wished to discuss with me.

I soon found out that what the salesman thought was a simple three color job was, in reality, a job that involved three different color blocks under a black halftone figure; that these colors were in various combinations; and that, actually, there would be between twenty and thirty-five different colors in the complete job. In making this suggestion, the salesman headed for deep water and greater costs than for color process.

I then said to the prospect: "Inasmuch as you cannot afford at this time to go to the expense of color process in order to display your wares in true color reproduction, what I believe you require is a catalogue of a grade beyond your last one in black and white. It is my suggestion that you run your wash drawings in duotone. You can secure an artistic effect thereby that is very pleasing."

At that, my salesman drew out of his portfolio a few duotone samples, which impressed the prospect very much. Said the prospect: "Thank you for coming down to see me. You've put your finger on just what I need, and I appreciate your suggestions. I am going out of town for a week or two, but have your salesman come down to see me then, with quotations on this catalogue in duotone."

On the way back to the office, I said to the salesman, "You were way off on this proposition. I find you lacking on two counts. You ought to know more about what you are selling. Secondly, you should be able to realize just what it is a customer needs and tell him just that."

"Well," explained the salesman, "I always do make good suggestions. However, I did not know very much about color, and that is why I asked you to come with me."

"Why don't you study up on color work?" I countered. "As a matter of fact, it will do you a world of good to

know about letterpress printing, photo-engraving and other production methods."

"But that would take at least two years of study," observed the salesman.

"How long have you been selling photo-offset?" I asked.

"A year and a half," was the answer.

"Had you devoted an hour or two daily for study purposes during that time," said I, "you would now know considerable about your own proposition and be in better position to make those good suggestions you mentioned."

About the time the prospect was due back at his office, the salesman showed me a printed piece, with some halftones in black on it. Under portions of these halftones were solid color blocks in red. "Here is something I ran across, which I am going to take down to Mr. Prospect," he stated.

"What for?" I asked.

"Why, he wants a job in three colors. This looks very attractive, doesn't it?"

"Very," I returned, and led him on with this question: "What do you propose to do?"

"Well," he explained. "Mr. Prospect can give us the original wash drawings, with tissue overlays in the colors he wants. We can take these overlays, have line cuts made of them, get repro proofs from the cuts, and then photograph them."

"So!" I exclaimed. "How about making up a simple color plate in the plant without the need of photo-engravers' cuts, repro proofs, and camera work?"

"Fine!" came back my bright salesman. "If we can do that why so much the better!"

Needless to say I was very much disgusted by this time. "Tell me," I asked. "Just what is the status down at Mr. Prospect's place?"

"Why," said the salesman, "he is interested in a three color job, a simple application of color, similar to this printed piece."

"Like the dickens he is," I retorted; "you were down with me. Is your memory so poor that you don't recall that there would be three different colors to each halftone, and so the job done that way would mean countless colors?"

"Oh, is that what he wants now? Did he change his mind or did you suggest it? Of course, that would mean a bigger order for us in dollars and cents, wouldn't it?"

Helpless, hopeless. The man was dismissed that week. I learned he had family troubles. But why he persists in endeavoring to sell photo-offset lithography, I don't know. He worked for a competitor, and the chances are he is working for another competitor now. He can point to some business he secured. He can show an imposing list of firms that he calls upon, name the executives of such firms.

(Continued on page 73)

Here's How!

YOU MAKE BLUE PRINTS ON GLASS THE PITMAN WAY:

Stir 1-1/4 oz. Pitman Blu-Print* Powder into 16 oz. warm water. Then add 1/3 oz. strong Ammonia and stir for three minutes.

Coat a clean piece of glass with the above solution. Dry in the whirler as if it were a zinc plate. When dry, expose under a negative in the printing frame for one minute.

Develop the Blu-Print* in running water with cotton and dry.

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New Chemicals FOR LITHOGRAPHY and THEIR USES

The following address by Mr. Wood to the members of The Litho Club of New York at its monthly meeting on January 26 inspired a lively questions and answers period, which demonstrated the deep interest of the members of the Club in the many new developments now being applied, and those "on the way," in the lithographic industry.

Press sheets which had been produced with some of the products mentioned by Mr. Wood were inspected with great interest by the members of the Club.

By WILLIAM H. WOOD

Research Laboratory
Harris Seybold Potter Company

IN order to get a proper concept of the things to be considered under the title of this paper it will be worthwhile to deal briefly with the fundamental chemistry of the lithographic process.

Perhaps no other division of the graphic arts, other than photography itself, depends so completely on chemistry. But contrasted with the voluminous literature on the chemistry of photography, practically nothing has been published on the chemistry of lithography. The papers by Tritton in the "Journal of the Society of Chemical Industry" and the papers published by the Lithographic Technical Foundation are practically the only literature existent on the chemistry of the lithographic process. It is felt that this is a regrettable condition when we consider the growing importance of lithography as a division of modern reproduction art. A multitude of problems in physical chemistry, organic chemistry, colloid chemistry, inorganic and metallurgical chemistry present themselves at once even after a very casual study of the lithographic process.

In sketching the fundamentals of the chemistry underlying the lithographic process it will be convenient to divide this discussion into two sections—one dealing with the chemistry of plate making processes and the other with the chemistry of litho plate printing processes.

Chemistry of Plate Making Processes

Images to be printed in the lithographic manner may be prepared by surface or deep etch methods; the surface type plate will be one made by tusing, hand transfer or application of a light sensitive colloid such as albumen, and the deep etch or intaglio plate will be one prepared by the known methods for such plates.

TUSING

Plates prepared by the application of tusche are old in the art. Tusche may consist of any material hydrophobic in nature which will accept ink. Mixtures of resins, solvents and soaps are generally used and the ink receptiveness of the work depends primarily on adsorbed films of stearic, oleic or linoleic acid on the metal surface. Such films are easily displaced by acid gum etches which destroy the work, and at best tusche work often gives weak images which break down during printing.

HAND TRANSFER

Hand transfer images consist of films of varnish and fatty acids impressed into the grain of the plate and usually have a film of protein material from the transfer paper imbedded coincident with these fatty films. When properly applied to a clean metal surface such films have good durability on the press.

COLLOID BASE

Colloid base images bearing oil or fatty acid coatings, such as albumen images carrying developing ink form a third class of surface type plates. Such images prepared from highest quality protein material, coated on clean plates with good developing inks may give long press runs; often however they have short life on the press.

Some defects, such as dot spreading, are inherent in images of protein materials. Water soluble colloids, such as albumen, are hardened by the light reduction products of a chromate or dichromate or other light sensitive tanning agent, the light passing through a negative before striking the sensitized colloid layer. The exact mechanism of this tanning reaction is not known. Some penetration of the fats and fatty acids into the exposed surface is necessary for more than a very short run on the press. Plates are too frequently rushed to allow proper penetration of the image surface by the fatty materials, and short printing life results.

DEEP ETCH PLATES

Deep etch plates are generally prepared by coating a sensitized water soluble colloid on a clean metal plate and printing under a positive. Unhardened colloid is then removed by dissolving away and an etch is applied to form an intaglio surface which is filled with lacquers, inks and the like which are to accept ink when the plate is placed on the press. The hardened colloid in the non-printing portions is deoxygenated with a polycarboxylic acid such as citric and thus removed.

Any of the above methods will result in a plate which after subsequent treatment with chemicals known as etches is ready for printing. Etches are of various types depending on the choice of the plate maker and the metal of the plate used. Practically without exception all of them

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NEW

NO. 43

OFFSET

BLANKET

IS MAKING USERS SIT UP AND TAKE NOTICE

Whenever the Vulcan Laboratory turns out a new product, lithographers and offset printers expect something extra special. And they're getting it in this new No. 43 Offset Blanket, according to users. Here are a few of the characteristics of this new Vulcan product:

Midway in hardness between the Vulcan Red Blanket and the Vulcan Black Blanket (Style 808).

Extremely flexible and pliable, and with a smooth, fine-textured surface.

Requires no running-in. No sulphur bloom to remove.

Light tan in color. Work is visible on the blanket.

Eliminates any tendency to emboss, deboss, swell, or become tacky.

Excellent printing qualities, combined with durable construction.

WRITE FOR PARTICULARS

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SALES REPRESENTATIVES IN PRINCIPAL CITIES

contain gum arabic, a high molecular weight water soluble colloid, and it is probable that adsorbed molecules of this colloid are the effective means for preparing the hydrophilic ink repellent surface in the non-printing areas. The effect of phosphoric acids and other agents used in etches is problematical. Some investigators think that such agents help to form salts on the metal surface which are hydrophilic in nature and enhance the effect of the adsorbed gum molecules. However, scrapings from the surface of an aluminum water roll subjected to repeated etching with phosphoric acid, gum arabic and ammonium dicromate showed no traces of phosphorus in tests with a large quartz spectrograph, leading one to question the existence of some salt deposits previously thought to exist after etching.

Chemistry of Plate Printing Processes

Plates with their adsorbed colloid molecules are in condition for the chemical operation of printing. During this operation plates are subjected to a very complicated set of chemical reactions. One set of reactions results from the chemicals used in the fountain solution. Others result from contaminating substances in fountain pans, rollers, inks and the plate metals. As an example of what may take place during printing, the following foreign elements were found in the electrolytically corroded aluminum roll above referred to: boron, large amounts of zinc, copper and lead, manganese cobalt, smaller amounts of calcium, silver, sodium and chromium. Few of these were present in the original roll which was substantially pure aluminum.

FUNCTION OF FOUNTAIN SOLUTION

It is the function of the fountain solution to keep gum molecules supplied to the clean metal surface so that the entire non-printing areas shall repel ink. Some operators change the acid concentration of the fountain solution with different inks, so that the plate will remain clean. What happens, of course, is that any tendency of fatty acid films from the inks to be absorbed on the metal is

thereby counteracted. If the acidity is increased beyond a safe limit, however, actual counter etching of the plate may take place and the plate may "catch up." Plates which "catch up" are hard to clean up again without damage to the work on the plate, since etching fluids strong enough to displace fatty acids from the metal surface will likely also displace them from the printing areas as well.

"LITHOGRAPHERS' LAMENT"

Some of the following troubles have been experienced by all lithographers at some time or other and have caused loss of time or even loss of work: defective plate metals, brittle or soft, plates difficult to clean or counter etch properly; plates with grain too fine or too coarse, or too deep; defective, easily spoiling protein materials or gums; scummy plates and poor offset inks; lint from defective molletons; pitted aluminum water rolls; swollen blankets, or torn blankets; ink rolls that would not stand up in service; deep etch systems too complicated for easy use; sharpening of surface plates on the press; ink rolls which strip; paper surfaces difficult to print by the offset process, and so on. The list might be continued into a "lithographers' lament" or "dictionary of troubles."

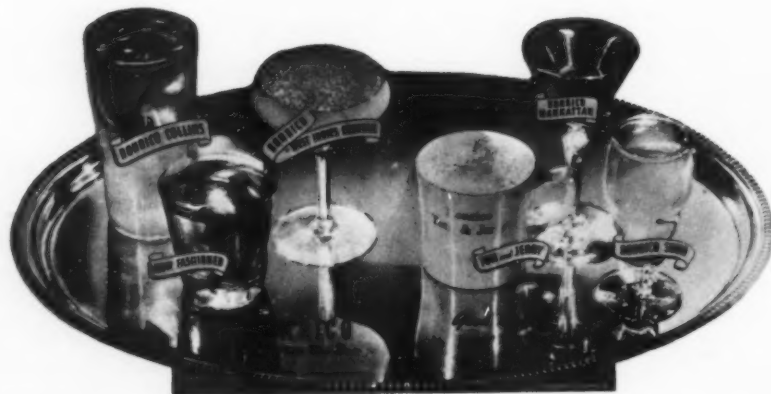
With the rapid progress being made today in chemical science it appears that investigation should reveal that some of the hundreds of thousands of chemical compounds now known might be of real value in overcoming some of the troubles mentioned above. Some of them should make it possible to do things lithographically where before they could not be done. It was this idea that actuated our research from the beginning. Lithographic chemicals and plate making and printing processes should be standardized just as photographic materials and processes are today standard and uniform. Research in plate metals and the graining process is needed. New colloids for plate making having properties superior to proteins and natural gums should supplant less satisfactory materials. Etching

(Continued on page 67)

Direct Color Photography Combined with the Deep-Etch Offset Process

achieved a new triumph in the beautiful and realistic colors of this display, produced by the Einson-Freeman Co., Inc., Long Island City, N. Y.

To tie up with it for inside display, there is an ingenious "three-dimensional" effect of a skier seeming to leap from a snowy background, complete with tiny actual sticks to round out the illusion of reality.



Consider Equipment with Distinctive Advantages

Wesel Plate-Coating Machine

(Right)

• This machine has an automatic *air-circulating* device that attracts no dust from outside. *A distinctive advantage.* Requires no extra motor for that purpose. Keeps the warm air *uniform and in constant motion*,—a factor insuring speed, consistency and cleanliness.

Driven by direct-connected, geared-head motor for positive and constant speeds, controlled by variable speed regulator.

In addition to the copper washing spray with automatic cut-off, this machine is fitted with a perforated copper spray pipe for cleansing the housing.

Aluminum Alloy revolving table; rustless alloy steel drum (not tin); ballbearing construction; adjustable legs; convenient drain connections; pilot light, etc.



Wesel Automatic Vacuum Printing Frame

(Left)

• This unit has several distinctive advantages. The *automatic vacuum control* saves over two thirds of the electric current. This one advantage makes the most popular machine we have ever designed. Over a thousand are in use!

Vacuum contact may be had in two to three seconds. And there are no hooks, clamps or fastenings. The new "quartz crystal" glass *permits 25% faster exposure*. Motor and pump are built into one integral unit, the metal base of which is supported on a series of compression springs, eliminating all noise and vibration.

Entire mechanism operated from one central control panel. Nothing to get out of order.

Made in Two Standard Sizes



WESEL MANUFACTURING CO. • SCRANTON, PA.

NEW YORK
468 Fourth Avenue

CHICAGO
201 N. Wells Street

SAN FRANCISCO
431 Clay Street

MONTREAL
637 Craig Street West

THE AGFA REVERSAL PROCESS

By VERNE H. RECKMEYER
Phototechnical Department
of Agfa Ansco Corporation

for Reprolith Films

THE reversal process provides a method of producing a film positive from a positive or a negative from a negative original.

Reproolith Regular, or Reprolith Thin Base, and Reprolith Ortho films, regularly used for photographic reproduction purposes, are the materials for which the following specific working instructions have been written.

All operations are standardized, and about 20 minutes are required for the reversal of a film negative into a positive or vice versa, not counting the time required for exposure and drying. The reversal process is applicable to both line and half-tone work since even the finest dot formations can be reproduced. Reversal has been found particularly useful in working from composite mats of positive vignettes.

The working procedure is divided into five basic operations:

1. Exposure (camera or contact).
2. First development, in which the film is developed as a negative.
3. Reversal and clearing, in which the negative image is completely dissolved.
4. Second exposure and re-development, in which silver halide remaining in the film is exposed to light and developed to form the positive.
5. Fixing, washing and drying.

EXPOSURE

For the making of reversal positives by exposure in the camera, or by contact printing, the film should be exposed for approximately the same length of time as that ordinarily found correct for camera exposure or contact printing when the film is to be subsequently developed in Agfa Paralith (paraformaldehyde) Developer. It is advisable to first determine the exposure by trial and to adhere to the same exposure time for every repetition of operations, once a standard has been established.

The exposure must be determined very accurately because the Reversal Process requires the film to perform double duty, and correct exposure is essential if there is to be a correct balance between the amount of silver in the negative image and the amount of unexposed silver

halide remaining to form the positive after the reversal operation.

FIRST DEVELOPMENT

| | <i>First Developer</i> | |
|-------------------------------|------------------------|---------------|
| | <i>Metric</i> | <i>Avoir.</i> |
| Hot Water (125° F. or 52° C.) | 750. c.c. | 24 oz. |
| Metol | 0.8 gm. | 12 gr. |
| Sodium Sulphite | 40. gm. | 1 oz. 150 gr. |
| Hydroquinone | 8. gm. | ¼ oz. 75 gr. |
| Sodium Carbonate | 30. gm. | 1 oz. |
| Potassium Bromide | 10. gm. | 150 gr. |
| Potassium Thiocyanate | 9. gm. | 135 gr. |
| Water to make | 1000. c.c. | 32 oz. |

The time of development is as follows:

Reproolith Regular and Reprolith Thin Base

Exactly 2½ min.

Reproolith Ortho..... Exactly 3 min.

The temperature of the developer should be maintained at exactly 68° F.

Sufficient developer should be used so that the film may be quickly and evenly immersed and development should proceed with agitation to insure uniformity. Consistent results depend upon uniform development and frequent changes of the developer solution. The first developer has good keeping quality if kept in a full and well stoppered bottle.

After the first development the film is washed in running water for three to five minutes. In the event that several films are to be washed together, care must be taken to insure that running water has free access to each film, to prevent films from sticking together, for such an occurrence may lead to stains and uncleared whites.

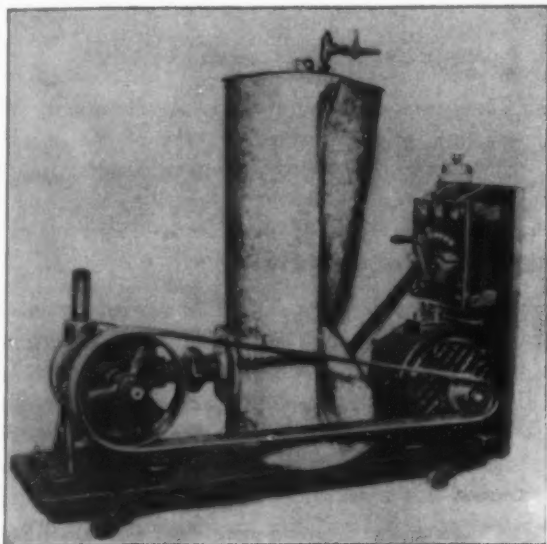
REVERSAL AND CLEARING

After washing the film is reversed.

Reversing Bath (Stock Solution)

| | <i>Metric</i> | <i>Avoir.</i> |
|------------------------|---------------|---------------|
| Water | 1000 c.c. | 20 oz. |
| Potassium Bichromate | 50 gm. | 1 oz. |
| Sulphuric Acid (conc.) | 50 ccm. | 1 oz. |

Here's a Positive Vacuum That Shows Real Power!



The Machines That
"Take Up Their Own Wear"

LEIMAN BROS.
PATENTED... ROTARY POSITIVE
VACUUM PUMPS

also used for blowing

It will pay you to insist on having these
pumps on your machines.

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LEIMAN BROS. NEW YORK CO., 23 (NN) WALKER ST., N. Y. C.
MAKERS OF GOOD MACHINERY FOR 50 YEARS

For use with vacuum printing frames, paper feeders, cartoning and packaging machines, and for all sorts of machines in the printing, binding, and paper industries.

—And here's the reason why
you are sure of having positive
service always:

Air from cylinder through by-pass in cylinder head enters this slot on its way to the outlet above. No opening in curved inner surface of cylinder means quiet operation.

OUTLET threaded for iron pipe.

Enclosed stud in piston holds wing close to cylinder at top, preventing loss of air pressure or vacuum.

Air coming in at inlet at side comes through this slot into cylinder head by-pass and thence into the cylinder. No opening in curved inner surface of cylinder means quiet operation.

INLET threaded for standard iron pipe.

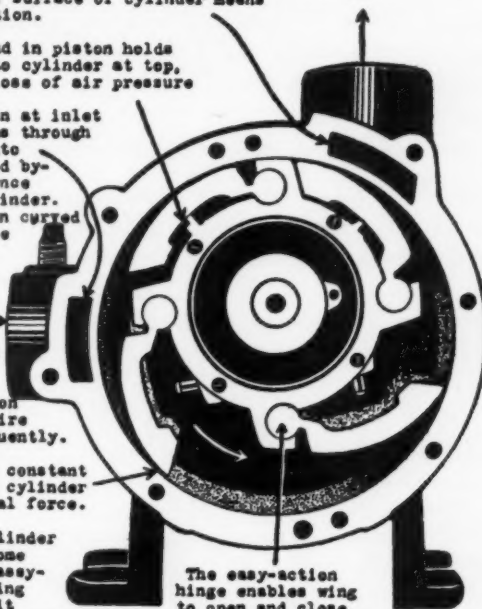
No composition tips to require renewal frequently.

Wing kept in constant contact with cylinder by centrifugal force.

Wing and cylinder surface become hard and glassy-like, insuring a perfect fit and positive pressure or vacuum.

Big air space resulting from small piston and curved wings.

The easy-action hinge enables wing to open and close, thus becoming wear-compensating by the action of centrifugal force.



Add the sulphuric acid last, pouring it into solution slowly, and with agitation. For use, dilute one part of stock solution with nine parts of water. After film has been in the reversing bath for about two minutes, white light may be turned on and the reversal carried to completion.

After the black silver of the original negative image has been completely removed (this requires about two or three minutes) the positive will appear as a faint yellowish-white image against a transparent brownish background (due to the brown anti-halo backing, which is removed at a later stage).

The film is again washed in running water for at least 3 minutes and then placed in the following clearing bath:

Clearing Bath

| | <i>Metric</i> | <i>Avoir.</i> |
|---|---------------|---------------|
| Water..... | 1000 c.c. | 32 oz. |
| Sodium Sulphite (anhydrous)..... | 50 c.c. | 1 1/4 oz. |
| Potassium Hydroxide (or Sodium Hydroxide)..... | 1 gm. | 15 gr. |

The film should remain in the clearing bath for about two minutes. (Note: The clearing bath may appear milky, if mixed with tap water that is too hard. This, however, does not interfere with its use.)

SECOND EXPOSURE AND RE-DEVELOPMENT

The undeveloped silver halide remaining in the film as a positive image is then exposed to light and developed in the second developer to blacken the image.

Second or Re-Developer

| | <i>Metric</i> | <i>Avoir.</i> |
|--------------------------------------|---------------|-----------------|
| Hot Water (125° F. or 52° C.) | 750 c.c. | 24 oz. |
| Metol..... | 2 gm. | 30 gr. |
| Sodium Sulphite..... | 25 gm. | 1/2 oz. 150 gr. |
| Hydroquinone..... | 4 gm. | 60 gr. |
| Sodium Carbonate (monohydrated)..... | 20 gm. | 3/4 oz. 75 gr. |
| Potassium Bromide..... | 2 gm. | 30 gr. |
| Water to make..... | 1000 c.c. | 32 oz. |

This developer tray is placed 2 feet below and directly under a strong white light. A 200-watt mazda or a photo-flood, preferably in reflector, is suitable. Use of direct sunlight is not advisable. After the light for the second exposure has been turned on, the film is transferred from the clearing bath to the second developer. If more than one film is handled, each film should be fed through the tray in a manner such that the front and back of all films will receive substantially equal exposure to the light. Blackening will occur within a short time and should be complete within three minutes. If more convenient, standard paraformaldehyde developer can be used for second development instead of the formula given above.

The reversing bath, clearing bath, and second developer may be used repeatedly until contaminated or exhausted.

FIXING, WASHING AND DRYING

Following second development, the film is rinsed and then given a brief bath in acid hypo to completely remove the brown anti-halo backing, and any traces of undeveloped silver which might remain. The film is then washed and dried as usual.

CONTROL OF THE REVERSED POSITIVE

Correct exposure, accurate first development and thorough washing are the essential steps of the reversal process which must be carried out exactly according to the given procedure. The other operations are not so critical in regard to time or temperature and in most cases can be regulated by inspection.

The final reversed positive should have opaque blacks and clear transparent whites. If the whites are veiled, and not entirely transparent, exposure should be increased. An insufficient volume of developer, uneven first development, exhausted first developer, or inadequate washing after first development are other possible causes of veiled whites. On the other hand, if the whites are clean but there is a loss of detail and the blacks are not as opaque as in the original, then exposure should be decreased. A weak original, warm first developer or over-development can also cause insufficient opacity.

These variations are exactly opposite those normally encountered in negative and positive processes, for in the reversal process under-exposure results in a heavier positive while over-exposure gives a lighter positive. This difference in the effect of under-exposure and over-exposure should not be forgotten.

It should also be borne in mind that in the reversal process the time of first development is fixed for each particular film, and this time definitely controls the ratio between opacity of the blacks and clarity of the whites. Too short first development results in blacks more opaque than necessary and whites are insufficiently cleared. Prolonged first development makes it impossible to secure sufficiently opaque blacks and also results in loss of detail.

The recommended developing times have been determined precisely after careful study of the photographic characteristics of each film. Since the length of exposure will depend upon original copy and upon the equipment available no specific information can be given. However, a standardized processing procedure should be found most useful and control of quality in the reversed positive should be effected by change in original exposure, rather than by change in developing time.

MOLLETON

flannel

RUBBER BLANKETS

SEWN MOLLETON & FLANNEL COVERS

SEAMLESS MOLLETON & FLANNEL COVERS

DAMPERS . . . LEATHER ROLLERS

HAND ROLLERS . . . SCRAPER LEATHER

SEAMLESS FOUNTAIN ROLLER COVERS

ROBERTS & PORTER

I N C O R P O R A T E D

ESTABLISHED IN THE LITHO SUPPLY BUSINESS OVER FORTY YEARS

New York: 100 Lafayette St., Phone: CAnal 6-1646

Chicago: 402 S. Market St., Phone: WABash 6935

CANADIAN AGENT: CANADIAN FINE COLOR CO., 240 LOGAN AVE., TORONTO

WHEN YOU SHOW SAMPLES—

SETTING out samples of photo-lithography for your prospect achieves little if you leave it to those specimens to speak for themselves. Their merit needs interpreting even in the case of an advertising executive who is fully familiar with the general advantages of photo-lithography. Each and every sample you show represents the successful and satisfactory attainment of an advertising and sales objective, or the conquest of a production problem.

Let's enumerate a series of imaginary samples.

Number one is noteworthy for something more than the fact that it is a strong, attention-compelling broadside. The laundry for which that piece was created wanted cleanliness emphasized through the whiteness of a ship's sails. It had tried to get the effect previously, through straight printing, but because the illustration and the message were not in proportion, it suggested a resort advertisement instead of immediately prompting the desired thought of the white cleanliness of the advertiser's laundry service. Lithography has the achievement of this broadside to its credit, because it made possible, within the limits of a modest budget, the large illustration that helped so much to tell the story.

Sample number two, a folder in which cravats are pictured so lifelike, represents a lot more than just a fine reproduction job. Photo-lithography made its production possible at so low a cost that the manufacturer is able to send out large quantities and secure orders on extra numbers between the regular calls of his salesmen. He saves thousands of dollars, having his salesmen carry only a few patterns of a new line, with the assurance that the complete assortment, exactly according to the realistic lithographed reproductions, will be mailed, if the public responds as is anticipated.

Now we come to sample number three. It is the catalog of a Hollywood manufacturer of dresses for women. It is important to emphasize the fact that the style creations emanate from glamorous Hollywood. Stills of stirring scenes from studio pictures were secured. Page after page of illustrations are shown that subtly convey the association of the manufacturer's dress creations with movie personalities. If plates had been necessary, a "colossal" Hollywood idea would have had to be abandoned. See to it when you show that sample that the prospect is made to realize that he is viewing a pictorial achievement of photo-lithography.

Our number four sample is a set of self-mailing pieces. It is one we should mark as being of particular interest to a firm that wishes to order five-thousand folders for syndication or a mail order course, but that wants to sell them at prices that are made possible only through an order for a half-million quantity order.

don't put too much strain on the imagination of your prospect. Don't expect him to guess the purpose that lay back of them, and how they measured up to the expectations of your customers. . . . Every sample worth showing at all has an interesting story connected with it. Don't be backward in telling it to your prospect, says the author—

JOHN J. LUTGE



The sample set of folders, created as a charm course for women, necessitated extensive illustration of the text ideas. With negatives available, the second run of a half million copies was produced at only the expense of the operating and paper cost of running a half million copies. With the aid of photo-lithography, the advertiser was able to get started in a new business venture at an investment cost of five hundred dollars, instead of risking two thousand, as he would have had to do without the help of photo-lithography.

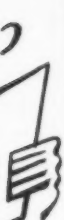
That sample set number four should be kept in mind and brought to the attention of any prospect who wants to set himself up with literature for a mail order course at a small outlay. He will appreciate the advantages we offer in placing him in a position to order large quantities later, with negatives that cost less in the first place so easily stored and so readily available.

The samples you carry have a history; they pulsate with life; they are banners of commercial success; they have served. Know your samples as a war veteran knows his battles. Show their relationship to business success and to accomplishment. But most of all, see to it that you have every sample in your kit listed mentally as a sales argument for a particular sales negotiation. If you casually stand by and allow your prospect to think so, he will have the thought that those for whom the jobs were created just happened to fancy photo-lithography for some vague and inconsequential reason.

Our process did not gain its place in the business sun simply because it creates pleasing effects. It has won its present prominent place in the graphic arts by demonstrating its right to consideration whenever a job is to be done most resultfully and economically. It has fought its way to a high position in its field in a remarkably short time. And because it has come to the front so phenomenally, there is very real danger that we sales emissaries of photo-lithography will fall down on our jobs of making new and greater gains for our industry.

Our samples represent what we have done and have accomplished. We must guard against thinking of them as laurels, and resting on them. Our samples, fine examples

(Continued on page 71)



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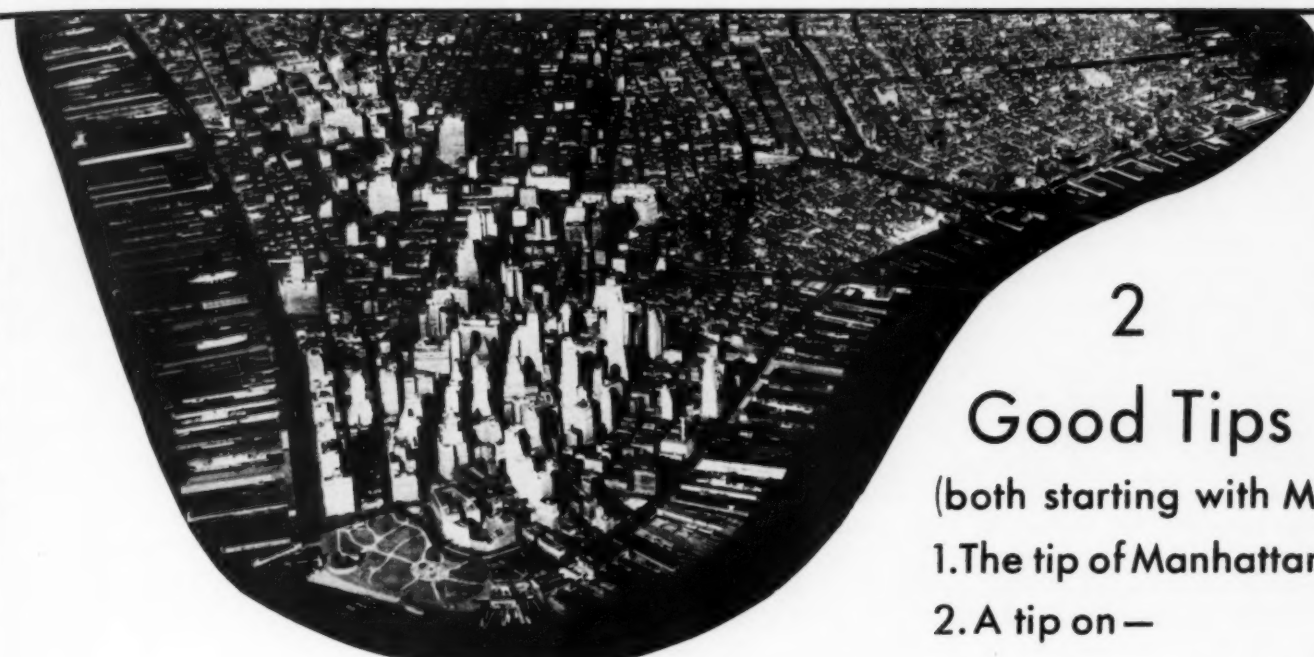
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2

Good Tips

(both starting with M)

1. The tip of Manhattan
2. A tip on —

MONTGOMERY OFFSET

Sparkling highlights, such as those in this aerial view of the lower tip of Manhattan, retain most of the sparkle of the original when they are printed with good inks and careful presswork on Montgomery Offset.

You will find less need for drop-outs in your negatives when Montgomery is used because it has a brilliant whiteness and its hard tub-sized surface helps to keep the high-lights clean and the solids strong and dense.

So much for just one of the features of Montgomery contributing to high quality in the appearance of the finished job.

The contribution of Montgomery Offset to economy in production is considerable. There are two main reasons—

Being so free from lint, fuzz, grit, and excessive alum, you will stop the press fewer times to clean the blanket when you use this paper.

It is pre-humidified. That means accuracy in color register; also more accurate and faster feeding and folding.

Why not
try
**Montgomery
Offset**
on that
next job?

Marquardt & Company, Inc. Fine Papers

153-155 SPRING STREET, NEW YORK TELEPHONE: CANAL 6-4563

COMMERCIAL FRAUDS AND RACKETS

The Tricks of the Trade, as Played on Business Men

By GENE LAWRENCE



WE HEAR very much, these days, of G-men and gunmen, yet swindlers, of whom we hear little, are many times more numerous. Furthermore, they filch millions, whereas the gunmen get but thousands. To give an idea of the scope of their racketeering it need only be said that one organization alone, the Better Business Bureaus, handles over half a million complaints each year regarding their activities.

Recently the Bureau had complaints from lithographers all over the country who had been duped by a crooked sales promoter. He claimed to have valuable sales connections with a national organization using a large volume of printed material. He could get a large contract immediately, but it would be necessary to go to a distant city to close the deal. Would the lithographer advance the necessary traveling expenses? He would, to the tune of several hundred dollars in each case.

Other losses are incurred by lithographers who advance credit to unknown promoters of unknown publications. Such crooks get the printer to start work on their publication, collect money for advertising and subscriptions on the strength of it, and then leave town.

WOLVES IN SHEEP'S CLOTHING

The many rackets preying upon business men take more or less standardized forms, and some familiarity with them will act as a safeguard against deception and losses.

Most rackets operate just within the law, on the borderline between legality and actual crime. They depend for their success on their superficial resemblance to legitimate organizations, using the same orthodox business procedures and set-up. Hence the business man is duped because he does not suspect that he is dealing with a swindler.

CREDIT RACKETS

The National Association of Credit Men lists hundreds of crooks engaged in credit racketeering. These racketeers have taken advantage of the close tie-up between the credit system and the credit rating agency. As usually worked, the credit racketeer sends an order for goods to a distant trader and uses the name of a firm which, when looked up in Dun & Bradstreet's credit reference book, will be found to have an excellent credit rating. The street address he gives, however, is not that of the firm rated. Dun & Bradstreet's reference book does not list street addresses, and unless the creditor orders a complete credit report covering his new customer he will not be aware of the difference in addresses, with the result that

Hoodwinking photo-lithographers and other business men wouldn't be so easy if all swindlers followed a set pattern as to appearance, manner, and the nature of their nefarious schemes.

Unfortunately they are a resourceful lot, introducing new schemes, more alluring than ever, as soon as the old ones become too well-known. This article covers only a few of the many ways in which business men are swindled of millions of dollars every year. Read it carefully — it may save you a lot of grief one day!

he sends the goods and loses the shipment. The goods and the swindler disappear overnight.

Another way of securing credit is by means of faked credit references, a method generally employed by spurious jobbers. In the bankrupt ruse, credit is obtained by issuing a false financial statement. When the goods are disposed of, bankruptcy follows. In another scheme possession is gained of a going concern by purchasing an option on it for a short period of time, during which goods are bought on credit. The goods are sold, the option is dropped, and the firm is left to foot the bills.

FAKE GUIDES AND SYNDICATES

Then there are the rackets that prey upon the business man's desire to increase his volume of business. One form is the "group buying syndicate." The syndicate requests large sums for the postage needed to notify their thousands of imaginary clients about your product.

The "buyers guide" is another variation. Those who fill out a requested 'information blank' for a free listing in the guide find that their signature is used as an authorization for an expensive advertisement, the contract having been subsequently inserted over their signature.

The sale of advertising space and listings in fake business directories, journals, and labor publications also flourishes. Convincing but fictitious names feature the titles of such promotions.

GYP COLLECTION AGENCIES

To liquidate the business man's uncollectible accounts and bad debts we have the gyp collection agency. They often call themselves an "account purchasing company."

(Continued on page 44)

THE PHOTO-LITHOGRAPHER



The Model "W" Cleveland

**Leads all other types
of Folding Machines
within its size range**

In SPEED

In ACCURACY

In LOW COST

per 1000 Signatures

Users have learned that any sheet coming within the size and folding range of the Model "W" can be folded most economically on this machine because of its low Installation Cost, its low Hour Cost, and its extremely High Speed.

The Model "W" folds the widest variety and weights of stocks, from very thin sheets up to 120 lb. cardboard or heavier. Folds accurately and stacks neatly even the smallest signatures.

Sheet Size Range 14 x 20" to 3 x 4" (sometimes smaller).

Folding Range, one to five folds.

Folds • Scores • Perforates • Slits

Ask for circular "IMPORTANT NEWS".
It gives you much valuable information
regarding your job folding.

DEXTER FOLDER CO.

28 West 25rd Street, New York

PHILADELPHIA

Lafayette Building, Fifth and Chestnut Streets

CHICAGO

BOSTON

117 West Harrison Street 185 Summer Street

CLEVELAND

ST. LOUIS

1900 Euclid Ave. 2082 Railway Ex. Bldg.

ATLANTA

Dodson Printers Supply Co., 231 Pryor St., S.W.

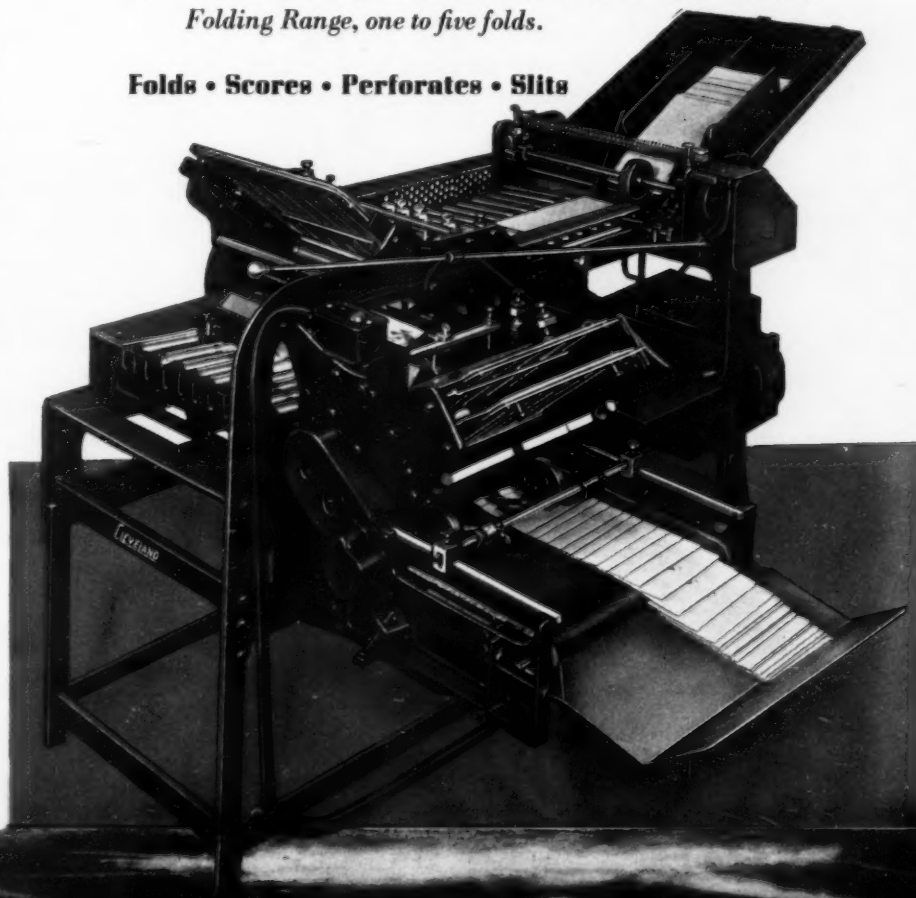
SAN FRANCISCO, LOS ANGELES, SEATTLE
Harry W. Brintnall Co.

DALLAS

J. F. Carter, 5241 Bonita Avenue



Model "W" Folder. Powered by Kimble.



They operate by binding the client to an artfully worded contract that enables them to keep all monies collected, through service charges or other expedients.

Other agencies collect "court costs" from the creditors in advance, and never sue the debtors. The contracts of unknown collection agencies should be carefully inspected by your lawyer before signing on the dotted line. Something should also be known about the men behind them.

CHECK AND DOUBLE CHECK

Is it necessary to state that checks should never be cashed for strangers unless satisfactory identification is furnished? Such identification should include the home address, driver's license, check signature, bank book, name of wife or husband, where employed, and name of neighbors. Names and addresses can be checked against the city directory. Few bad check passers can survive such a test.

FORGERIES

Your checking account should be guarded against forgeries by protecting blank and cancelled checks against pilferage from office or mail-box. If you have been unduly negligent in safeguarding such papers your bank is not liable for forged checks drawn against your account.

VANITY FAIR

There are rackets that seek to exploit the business man's vanity by giving him a write-up in a "puff sheet" or a "mug book." Such publications bear an imposing name, or a title that resembles a legitimate journal. They have no subscribers, and derive their revenue solely from the sale of copies to their dupes. Also active are the photographers for fictitious "press associations," who seek to take one's picture for "press purposes," and then solicit an order for copies at fancy prices. They are usually in evidence at conventions.



INSURANCE THAT DOESN'T INSURE

There are scores of companies bootlegging insurance, most of which is sold through the mails to persons in a foreign state where the bogus company is not licensed to do business. For instance, a New Yorker may be sold a policy by an Indiana insurance company, though the company is not licensed to do business in New York State. Obviously, their fraudulent character is the reason they do not seek and cannot obtain a license to do business in New York.

As bait, such companies usually offer "bargain insurance," selling much below the minimum legal rate. They explain that their large volume of business and small

overhead expense enables them to give cut rates. Needless to state, any claims on their policies are never paid. When the situation gets too hot they close their doors and move on to a new location.

CHARITY RACKETEERING

Phony charities, preying upon business man and public alike, are a popular form of racket, breeding bogus institutions and philanthropies of every kind. Racketeers usually choose a name similar to a reputable charitable organization, and their letterheads may sport an imposing array of "sponsors" who have not authorized the use of their name. Occasionally prominent people permit the use of their names to organizations of which they know nothing, so sponsorship is not a guarantee of worth or authenticity.

Telephone solicitation for charitable contributions are always suspect, especially by an individual claiming to be a public official. If some fine morning an unknown voice announces itself over the telephone as Judge Soandso, and asks for a contribution to "The Babies Milk Fund," do not reach for the check book, but for the telephone. Call the city welfare department or the charities bureau for information. Other sources are the Chamber of Commerce, the Better Business Bureaus, and the police.

TICKET SELLING

Ticket selling is another favorite form of deception—benefits for policemen, firemen, veterans, the unemployed, or fraternal orders. Advertisements may be solicited for official magazines or anniversary publications, the proceeds to go to charity. All such claims should be thoroughly scrutinized and investigated.

SECURITIES (?)

The various securities rackets have been exposed time and again—the sell-and-switch, bucket-shop, and the promoter and tipster enterprises. The Federal Securities Act has made it more difficult for such tricksters to operate, but it has not wiped them out.

THE BETTER BUSINESS BUREAUS

The business agency most active in combating rackets are the Better Business Bureaus, scattered in fifty-seven cities throughout the country. Besides preventing frauds, they promote fair advertising and selling practices, and educate the consumer as a buyer. They also act as a clearing house for information concerning frauds, and co-operate with Federal and local authorities in their prosecutions.

The Bureaus are supported by the business men of the community, and serve the public without charge, supplying general publicity and individual advice and information. Their two principal slogans are—"Before you invest—investigate" and "Read before you sign—and keep a copy."

Eternal vigilance is still the price of safety.

THE PHOTO-LITHOGRAPHER

SAVED \$413⁰⁰!

...by using*

FRAOPAQUE

SAY FRAY-O-PAKE FOR ECONOMY'S SAKE

Here's a case study, typical of the savings being pocketed by people who are using Fraopaque. 100,000 16-page booklets on 70 lb. offset tipped the scales to a high postage rate. Shifting to 24-lb. Fraopaque the buyer procured equivalent opacity, while slashing the paper tonnage 2,400 lbs.

At bulk postage rates (12¢ per lb.) this reduced the mailing cost \$288.00 for saving No. 1. Cutting 2,400 lbs. of paper reduced the bill for stock by \$125.00. Added to-

gether . . . postage and paper saving . . . the total in pocket for the customer is \$413.00. Remember, \$413.00 saved without sacrifice of opacity. \$413.00 in the bag and a well-printed, attractive booklet produced.

Enjoy this double saving on your own next job. Write for a portfolio of Fraopaque samples and the name of your nearest distributor. Or merely use Fraopaque on your next job...and see for yourself.

**FRAOPAQUE — FIVE WEIGHTS — 13, 16, 20, 24, 28 LBS.
ENGLISH OR VELLUM FINISH. LAID OR WOVE. 8 SIZES**

** A true story of an actual experience.
Further details furnished on request.*

FRASER INDUSTRIES INCORPORATED

420 Lexington Avenue, New York, N. Y.

111 West Washington Street, Chicago, Ill.

Dufaycolor Film Opens New Profitable Fields for Lithographers

A NEW era in photography is made possible by recent developments in the production of a simple and economical color film which, for the first time, enables photographers in the United States to take pictures in natural colors with the cameras they now use, according to an announcement by Pierpont M. Hamilton, president of Dufaycolor, Inc.

At an exhibition on January 28 for the press, and photographic and trade publishers, in the offices of the company at 30 Rockefeller Plaza, New York, Mr. Hamilton pointed out that this simplified method not only introduces a new era in amateur photography but leads to new developments of far-reaching importance in color photography for commercial use. He said that color pictures can be made with identically the same equipment now in use with black and white film, and with the faithful rendition of all color values.

Dufaycolor film, developed in England from a basic French invention, is a tested product which has received the approval of the highest scientific authorities. It is today widely used in England, where it is the unquestioned leader in its field, according to Mr. Hamilton.

Simplified color photography—quick, convenient, and reasonable in cost, now made possible in the United States by Dufaycolor film, opens up an almost endless variety of new opportunities for lithographers and all others engaged in the graphic arts.

It will encourage a much greater use of color photography in advertising, as well as in editorial columns. Heretofore, though impressive and conspicuous, its use has been limited because of technical difficulties and high cost.

Just when the first color transparency was lithographed in the United States is not known exactly. Several firms claim the honor, and today these pioneers are doing excellent work with it. They find it in many cases preferable to the paper print, the painting, or the artist's sketch. Many other firms have just started to work with the transparency, and some are completely unfamiliar with it.

The opinion of some leaders in the lithographic industry is that the effective use of a practical and comparatively inexpensive film, such as Dufaycolor, in lithography can be almost unlimited. They claim that it will open new and profitable avenues of business not only for lithographers, but for all engaged in the graphic arts.

Pejepscot Now Makes Insulating Material

The Pejepscot Paper Company, New York, is now manufacturing an insulating product known as Airmet. It is a new product that combines the non-flaming paper, manufactured by Pejepscot, and aluminum foil. It will be marketed by the Ruberoid Company.

To Avoid Monotony

HUMAN nature being very much the same the world over, with the lithographic industry no exception, it is quite likely that on the very day when you are reading this, a certain number of people working with you have complained of the monotony of the work they are doing. "Now if I could only work at something like . . ." is a common expression.

To many people the grass on the other side of the fence always seems greener. By the same token they believe that no other jobs could possibly be as monotonous as the ones they have.

Such people may find encouraging food for thought in the following item, which appeared in a recent issue of "Net Results," a most interesting little house magazine published by Hopf, Kent, Willard & Company, management engineers and accountants, New York, who number some well-known lithographic plants among their clients.

Here's the item:

"TO AVOID MONOTONY—When he was a small boy, Arthur E. Morgan had the job of carrying in the firewood to fill the wood-box by the kitchen stove. Even then he was no lover of monotony. He liked variety. He was blessed with a constructive imagination, which enabled him to find variety in the simplest kind of job.

He says he used to vary the tasks by different ways of piling the wood. Sometimes it would be in neat horizontal layers; sometimes on end; sometimes the sticks would be matched as to size and length.

There isn't any task, no matter how simple it may be, into which the elements of variety cannot be introduced. Many a person who complains of monotony of living is only advertising the limitations of his own thinking."

Swart-Reichel, Inc., Turn Out Fine Job

The plates for the lithographed section of Westvaco Inspirations for Printers, mentioned elsewhere in this issue, were made by Swart-Reichel, Inc., New York. The section, which includes both fine half-tones and delicate line subjects with hair register of colors, is another credit to add to the long list accumulated by this well-known concern.

Willard Sells Press to Cleveland Plant

Willard Press Manufacturing Corporation, New York, manufacturers of offset presses, have announced the sale of one of their new model 22 x 30 presses to Horn & Norris, Cleveland, Ohio.

William Gegenheimer is president of the Willard Corporation.

San Francisco Lithographers Expand

An increase of about a third in production facilities will be available to Stecher-Traung Lithograph Corporation, San Francisco, Calif., with the completion in the Spring of an addition to its plant.

The Schmidt Lithograph Company, also of San Francisco, is replacing its one-story pressroom with a six-story building, with additional floor space to amount to about 60,000 square feet. Extensive new equipment will be purchased.

To Improve Your Selling

Avoid:

Long-winded interviews; dirty samples; over-selling your plant; under-rating your prospect's intelligence; belittling office boys, telephone operators, secretaries.

Try these methods:

Follow-up your first call with a "thank you" letter; remember you can sell by listening as well as by talking; study your prospect's problems; present your proposition briefly and clearly.

When Selling—

Try to get one of the following results from your interview:

1. The order.
2. An invitation to submit a quotation.
3. A promise to call you whenever a lithographed job is wanted.
4. An invitation to return.

REPRESENTATIVES WANTED

Live wire men having contacts with lithographic industry can make extra money selling **THE PHOTO-LITHOGRAPHER'S MANUAL**, with its 350 pages of valuable information on all phases of the process. Key men in numerous plants now find it indispensable. Bulk sales in many plants easy.

Representatives can also handle sales on **THE PHOTO-LITHOGRAPHER**, the lithographed trade paper with an editorial content that will help every firm in its selling, production and management.

Write Waltwin Publishing Co., 1776 Broadway, giving references and full details.

Have You Tried

AQUATEX

(Patent applied for)

New Seamless Dampening Cover?

THIS seamless, easy-to-put-on, and easy-to-take-off covering for dampening rollers is rapidly becoming standard on all types of lithographic presses. Not only is the cost of recovering your own rollers cut to a minimum, but pressmen are getting better water distribution and longer runs.

"Just another way to make things easier"

Try AQUATEX on one of your presses and you will be as satisfied as other users. Information and free samples from any of the following:

Distributors

| | |
|---------------------------------------|--|
| Sam'l Bingham's Son Mfg. Co. | Chicago, Illinois And All Branches |
| California Ink Company | San Francisco, Calif. And All Branches |
| E. Roy Dudley | Newark, New Jersey |
| The Fuchs & Lang Mfg. Co. | Chicago, Illinois New York City And All Branches |
| Gustavo E. Mustelier | Havana, Cuba Puerto Rico |
| National Roller Co. | New York City |
| Printing Press Parts & Supplies, Inc. | Boston, Mass. (Owned and operated by Wild & Stevens, Inc., Boston, Mass.) |
| Wortman Roller Company | Cincinnati, Ohio |

Sole Manufacturing Agents

GODFREY ROLLER COMPANY



211-15 N. CAMAC STREET
PHILADELPHIA, PENNA.

WILLIAM P. SQUIBB, President

Roller makers for 73 years. Lithographic — composition — newspaper — varnish — lacquering — every kind of good roller required for good printing and lithographing.

• EQUIPMENT AND MATERIALS *Review* •

Contributions for this section are welcomed from manufacturers who have established unquestionable proof of the contribution of their product to improving efficient operation of photo-lithographic plants, preferably through actual use in a number of plants.

Publication of any contribution should not be construed as an endorsement by The Photo-Lithographer of any of the statements made in it. This magazine will, however, try to establish, before publication of any contribution, the fact that the equipment or material it describes meets the general specification of "outstanding merit," proved by successful actual use.

New Automatic Half-tone Diaphragm Control Now Being Demonstrated

The Automatic Half-tone Diaphragm Control, a device that automatically times light exposure and cuts off at exactly the right time, is now being demonstrated by R. P. Newick at 187 Sylvan Avenue, Newark, N. J.

According to Mr. Newick, this simple device assures negatives of uniform quality, and faithfully retains the values of the copy in negatives made in several reductions.

The Control, Mr. Newick claims, operates rapidly and without need of attention after the start. Dialing to the wanted size, then pushing a button, automatically gives the correct diaphragm opening and the right light exposure.

Anyone interested can obtain from Mr. Newick specimen sheets, showing prints of the same subject from negatives in several sizes. They illustrate Mr. Newick's claim that the reductions can be made with the Control without loss of values in any one of the negatives.

du Pont Product Reduces Vibration

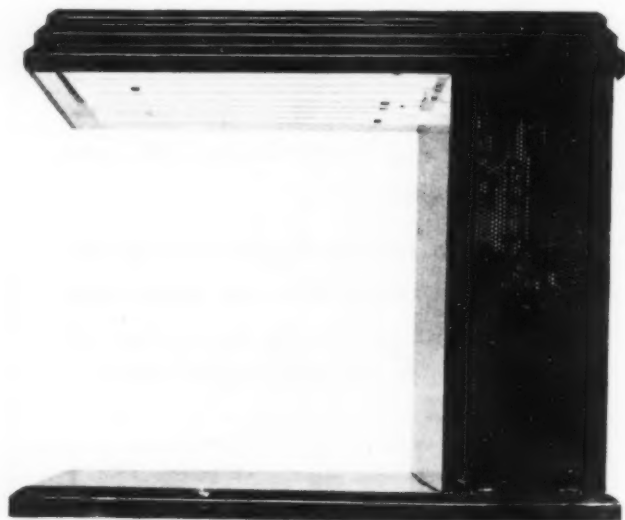
Lithographic plant superintendents may be interested in a new publication, "The Neoprene Notebook," published by the Rubber Chemicals Division, E. I. du Pont de Nemours & Company, Wilmington, Del.

The Notebook is devoted to information regarding Neoprene, a resilient material developed by du Pont for use as a vibration dampener. Copies of this publication will be sent free of charge, monthly, to anyone interested in the reduction of vibration in machinery in lithographic plants and elsewhere.

Barkon-Frink Announces New Series Bench Model Color Matching Lamps

The Barkon-Frink Tube Lighting Corporation, Long Island City, N. Y., announces their Model F series of Bench Model Color Matching Lamps, to supplement the regular series of Barkon carbon dioxide daylight lamps.

These bench models, according to the manufacturers, are the answer to the need for a lamp when the size of the color matching specimen does not require large area illumination. Like the other Barkon lamps, the Model F series differ from electrical illuminating devices of both the incandescent and the gaseous discharge type in that the quality of the carbon dioxide radiation remains unchanged throughout the life of the tube. This is due to the continuous supply of fresh gas obtained in the lamps by means of an ingenious patented design.



A Model F Barkon Bench Model Color Matching Lamp

THE PHOTO-LITHOGRAPHER

Develop New Method to Measure Expansivity of Paper

Cooperating with and financially supported by the Lithographic Technical Foundation, Charles G. Weber and Martin Geib, working in the paper section of the National Bureau of Standards, Washington, have developed a relatively simple method for measuring the expansivity of paper when subject to a wide range of humidities.

Specimens of paper, according to this method, are mounted under tension in a cabinet in which the humidity is controlled by salt solutions. The changes of paper length are measured with an optical lever, and the hygrometric conditions surrounding the paper are determined with a wet and dry bulb hygrometer.

Meter for Metal Hardness and Strength

The portable Brinell Meter, manufactured by Louis C. Eitzen Co., 280 Broadway, New York, may be interesting to lithographers because of its ability to accurately determine the hardness and strength of metals and metal products, regardless of their dimensions.

Simultaneously the Meter makes impressions in a reference bar and the material to be tested. The standard reference bar is supported in contact with a standard 10 millimeter steel brinell ball. The assembly is then placed in position on the surface of the material to be tested. A plunger within the instrument is given a sharp blow with a hammer. The brinell ball produces a simultaneous impression in the bar and in the surface of the material under test. The impression diameters are then compared and by reference to a Direct Reading Hardness Table provided for the reference bar, the brinell hardness of the material is quickly noted. By the same token the tensile strength of the material is quickly computed.

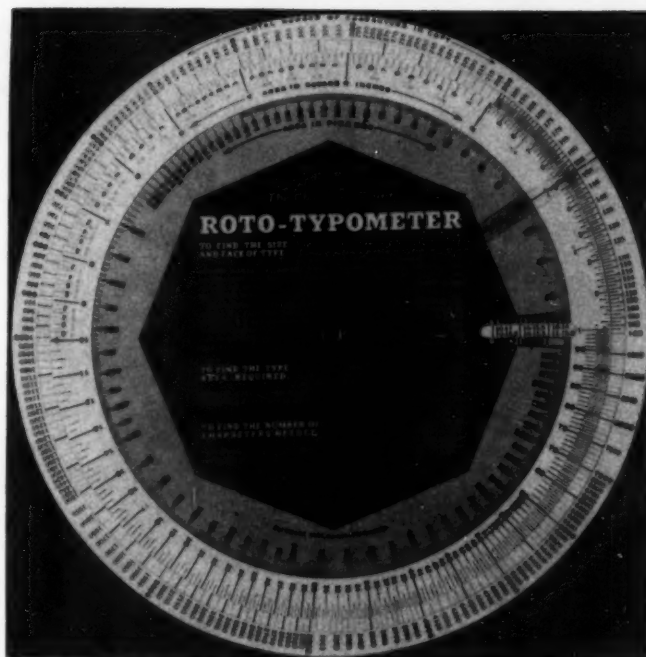
General Electric Announces New Timer

To fill the expressed need for a simple and accurate timer, General Electric Company has announced a new electric timer, useful when accuracy is desired and simple operation is mandatory. To set the timer, the alarm knob is turned until a red pointer indicates the desired interval. Any operation up to three and one-half hours may be timed.

Manufacturers desiring to have their products reviewed in this section should keep in mind that descriptions submitted to The Photo-Lithographer should include information as to just how their products are being used in lithographic plants.

Photographs or line drawings showing the products and how they are used in lithographic plants will help materially in making this section more interesting.

Comprehensive Copy-Fitter



Roto Calculating Devices Co., 354 Roger Williams Ave., Highland Park, Ill., claim that their new Roto-Typometer is the most comprehensive copy-fitting device ever put on the market.

While it is based on character-count, the necessity for actually counting characters has been eliminated, as this is done automatically.

The user need only measure the dimensions of his copy, select the type from the list on the back of the Roto-Typometer, which includes practically every face in general use, to find the exact area the type will occupy, whether set solid, or leaded any number of points. Or, he can measure the type area in his layout, select the type, and find exactly how much copy to write.

Another valuable feature is the G scale, which enables the user to find the average number of characters that will set in a line of any width in any face of type.

The D and E scales are calibrated the same as an ordinary slide-rule, and may be used in the same way for the solution of problems of multiplication, division, and proportion. The B and F scales are calibrated in inches and fractions, and are used for calculating the sizes to which photos or drawings may be reduced or enlarged. The H scale is used for figuring discounts.

Practical Suggestions for **Operating The Lithographic Press**

THESE necessarily brief notes are not to be considered a manual for the operating of the lithographic presses; not even the most careful study of them will enable an inexperienced person to undertake to operate the simplest of these machines. Manufacturers supply complete books of instruction for the users of their presses, but the study of these books, which have been prepared with great care, and aided by the verbal instructions of a qualified teacher, are not enough. Only by long experience can one expect to be able to produce that high quality of work which is well within the range of the process. It is believed, however, that these fragmentary paragraphs, while they omit mention of many minor details, will give a more or less complete picture of the various steps involved in the operation of a lithographic press.

As will be noted from a glance at the sub-headings, the discussion begins with the correct placing of the printing-plate on the press, and then proceeds, step by step, until the press is in operation.

It is too much to expect that this discussion is free from all error. Despite the fact that it has been checked by a well-known expert, a man with years of experience in the photo-lithographic field, there may be some slight inconsistencies, or instances where the description of an operation has not been clearly phrased. Then, too, in all the operations described practice is not uniform in all plants. In such instances we have chosen the method that seems best, or which is most generally used.

The photo-lithographic process is so new, and improvements are being made so rapidly and constantly, that the method in use last year, or at the present time, may soon be discarded in favor of another that will give better or equal results with less effort. But such changes must be expected, for change usually means progress. Only by discarding the old in favor of the new can advancement be made. And the photo-lithographic process is advancing. Of that there can be no doubt. Compare the work now being produced with that of only five years ago, and one will realize how great has been the improvement. But perfection has not yet been reached—probably never will be. It is the goal, however, at which all should aim. For that reason it is hoped that this discussion will be of some

slight help in aiding those in the industry who are striving to make the process so flexible and economical, and to so improve the quality of the work produced, that photo-lithography will accomplish all that its most optimistic friends know it is capable of doing.

Putting on the Plate

After having determined, by careful examination, that the printing surface of the plate is satisfactory in every way, that its back is perfectly clean, as well as the surface of the cylinder to which it is to be attached, that the plate has been so marked that accurate register can later be attained, and that the plate has been properly regummed, the next step is to determine the amount of packing required. This means accurate micrometering of the thickness of the plate, not at one point, but the average of several measurements at different places.

After finding the thickness of the plate, you select the correct packing-sheet to put under plate to bring it up to bearer height; for example, if your plate-cylinder is stamped .020 and your plate is .015 you need a .005 packing-sheet to bring it up to .020, or bearer height.

There is a difference in the amount of cut-out on the plate-cylinder and the blanket-cylinder. On the blanket-cylinder it is usually .075, while the plate-cylinder may have a cut-out ranging from .013 to .029, depending on the make of the press. The purpose of the packing is to have both cylinders the same diameter, or with a variation of not more than .002. The total pressure required, gained by overpacking, is usually about .003 to .004.

The next step is to loosen the clamps enough to permit the insertion of the gripper edge of the plate, tighten the clamps, and then set the adjusting-screws so that the register-marks on the plate are just ahead of the marks on the cylinder-space between plate surface and bearers.

Now revolve the cylinder and in the clamps provided place the other end of the plate, and tighten the clamps, starting from the center and working toward both ends of the plate, which means tightening the screws alternately from right to left. Next, turn the adjusting-screws until they are quite tight; of course, starting from the center. The gripper end

Important Notice

THE PHOTO-LITHOGRAPHER

**S-t-r-e-t-c-h-e-s
but not to yawn!**

SINCE its inception The Photo-Lithographer steadily has grown bigger. With every year it has added to its weight — editorially, and physically with additional pages. For this our thanks to loyal appreciative readers and advertisers.

Recently we experimented with stretching exercises—new and larger page layouts and things like that. They proved inspiring. They suggested an opportunity to put even more vitality and liveliness into our pages.

The outcome was inevitable!

Starting with the March issue, The Photo-Lithographer will have a page size 9 x 12 inches, instead of 8½ x 11 inches.

With this change in page size a new editorial page arrangement will be inaugurated—with three columns instead of two in most of the pages. This new format will allow greater flexibility in layouts, resulting in pages of enhanced attractiveness, and there will be more editorial content.

The advertising columns will permit larger advertisements (without increase in rates because of the larger sizes), and some fractional page units not possible heretofore.

There is just one purpose back of the increase in size. It is to make The Photo-Lithographer of more value than ever before both to the readers and advertisers.

If this purpose is fulfilled (and we will know only if our readers tell us how they like the new size and whether it does seem more interesting than the old one), we will consider the larger size well worth the extra cost.

**So, starting with March
The Photo-Lithographer
Bigger and (we hope) Better
Than Ever**

SIEBOLD

ROLLERS

Made by us and backed by a reputation for rollers as near perfection as they can be made. Smooth and Grain Leather Rollers, Molleton and Muslin Covers; also full selection of Hand Rollers, both Rubber and Leather, for transferers' and provers' use.

INKS

Lithographers who have used our inks through many years claim that they give more good impressions per pound.

SAFETY INKS

You can manufacture your own safety paper with this ink, printing in pantographic design or otherwise. You can use any type of offset plate including dampers as this ink is not water sensitive.

LITHO CHEMICALS

Made according to one exacting and high standard and especially for photo-offset lithographers. You can depend on them to give uniform and satisfactory results.

For Over
50 Years

**A Sign
of High
Quality**

Send for
Supply Price List and
Specimen Books
of Offset and
Safety Inks.

J. H. & G. B. SIEBOLD, INC.

LITHOGRAPHERS' SUPPLIES

Office: 47-49 WATTS STREET, New York, N. Y.
Factory: 99-105 SIXTH AVENUE, New York, N. Y.
Telephone: WALKER 5-9474-5-6

OFFSET BLACKS • COLORS • SAFETY INKS • ROLLERS
MOLLETON • DAMPER COVERS • RUBBER BLANKETS

of the plate must now be adjusted by the adjusting-screws so that the register-marks coincide exactly with the marks on the cylinder between plate surface and bearers.

Putting on the Blanket

The following procedure is for putting a new blanket on its cylinder. Of course, it must be absolutely clean, which means its surface must be washed with gasoline or benzine. Furthermore, before attaching to the cylinder, the ends must be square with the sides, so that there will be an equal tension all over the blanket when it is stretched around its cylinder. The squaring up is usually done on a paper-cutter, care being taken that the blanket lies flat on the bed of the cutter.

The next step is to find and mark the exact center of each end of the blanket, and to connect these marks with a straight line. Now, with an accurate square, draw a line at right angles to the center line and approximately $\frac{3}{4}$ of an inch from the end of the blanket.

The next procedure is to place the clamp-bar on one of the cross lines, centering the holes in the bar on the line just drawn, and with the middle of the bar on the center line. Now, through the holes in the bar, mark where the blanket is to be punched, repeat this operation on the other end of the blanket, and then punch the holes.

The bars are now attached to the blanket by means of screws or bolts, and the blanket thoroughly washed and then covered with powdered sulphur. Remember that the distance between bars on ends must be equal.

Now take your blanket and get its approximate thickness which usually runs from .058 to .063 in thickness. Your blanket cylinder is usually cut .074 below the bearers. It takes from .0025 to .003 over packing to get the pressure necessary for good offset printing. For example, we will take a blanket that is .062 thick and our blanket cylinder is cut .074. The difference there is .012 plus .003 more we need for pressure which makes a total of .015, which we must make up in paper packing under blanket.

You now place one bar of blanket in its place on cylinder over your packing and lock securely. The cylinder is now revolved and the other bar put in its holder and locked and you now proceed to tighten blanket around cylinder by means of a wrench on square end of reel-rod, which is locked with a ratchet, until you have blanket snug around cylinder.

Setting the Form-Rollers

As they revolve, these rollers must come in contact with the surface of the plate, and they must also make just the right contact with the distribution-rollers. If both of these contacts are not maintained, an insufficient amount of ink will pass to the plate, which means a gray and mottled appearance of the printed sheets. Such work must not be tolerated. With the photo-lithographic process, it is possible to print in full color, and because of the nature of the paper used, even heavy forms can be run at full speed and with little danger of the ink offsetting on to other sheets as the work piles up after printing. Of course, with heavy forms due precautions must be taken not to stack the printed sheets too high.

It will be found that the best results are obtained when the form-rollers have a pressure of about .003 on the plate. To avoid injuring a new plate, it is best to set the rollers when an old plate packed to bearer height is attached to the cylinder. Take some strips of paper that "mike" .003 an inch, and place a strip of this paper between the plate and each end of the roller but not touching the design on the plate. Also, place a strip of paper between each end of the roller and its rider. Now drop the roller on the plate and adjust it so that the pressure on all the slips of paper is equal. Tighten the set-screws and turn the press until the rollers are in the gap, and while in that position adjust the rollers to the riders. Turn the press again until the rollers are in contact with the plate and with the paper slips again test the pressure on the plate. Repeat these operations until you are sure the rollers have the correct pressure.

How to Set the Front or Gripper Guides

These will be found at the front of the feeder on automatic presses, and at the front of the feed-board on hand-fed machines. They are so geared that they open or lift just as the grippers seize the sheet. This movement is controlled by a cam, and when correctly set, need never be changed, regardless of thickness of the stock being printed. It may, however, be necessary to change the width of the opening between the jaws of the guides, depending on the thickness of the paper. This is a very simple operation, but the procedure varies with different presses.

There is no fixed rule as to when the jaws of the guides should be changed, but if the variation in the thickness of the paper is as great as .005, an adjustment may be necessary. The method of adjustment varies with different presses.

(Continued on page 56)

At last! a device
that automatically times
light exposure and cuts off
at exactly the right time.

The Automatic Halftone Diaphragm Control

A simple device that insures high grade negatives of uniform quality, performs perfectly and quickly on all size reductions retaining the values of the copy.

The Automatic Diaphragm Control will help you to step up quality and reduce costs in your camera department.

The Automatic Diaphragm Control is easy to operate: dial to size wanted, and one push of a button automatically gives the correct diaphragm opening with the right light exposure.

*The Automatic Diaphragm Control
is quick in all its operations and
requires no attention after the start.*

The Automatic Diaphragm Control will be demonstrated any time by appointment in our plant. Specimen sheets on request.

R. P. NEWICK

187 SYLVAN AVE.

NEWARK, N. J.

READY TO RUN



Adena **OFFSET DUAL CONTROL**

What is Dual Control? It is the control we exercise at the mill . . . all the way through: first, the moisture content is controlled automatically while ADENA is being made on the paper machine; second, additional control by means of a perfectly air-conditioned finishing room. Save time, save labor by putting ADENA on press right from case or skid.

NOTE! Adena is tub-sized . . . lies flat . . . will not wrinkle . . . has no fuzz or lint.

PRICED FOR QUANTITY RUNS



SAVE MONEY BY SHIPPING
VIA MIAMI VALLEY SHIPPERS'
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Makers of Quality Offset, Lithograph and Book Papers

CHILLOTHE PAPER COMPANY

Executive Offices and Mills: CHILLOTHE, O.

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CHILLOTHE—a buy-word for high grade papers

EQUAPO

"ANOTHER TRIANGLE TRIUMPH"

A NEW OFFSET BLACK THAT GIVES AMAZING RESULTS

This brand-new Offset Black Ink our chemists have recently perfected has a density that will surprise you. It works smoothly on the press; has all the coverage you expect; dries quickly, yet does not tone down; gives to solids that rich, velvety effect your customers like, yet prints type and

fine details of halftones as clean and sharp as could be desired. Test out EQUAPO on the next job for a fussy customer. You will then agree that it is the finest offset black that has ever been produced with complete opacity, richness of tone, yet moderately priced.

Two other inks we have at last perfected and offer to the lithographic trade as the best of their kind are a Permanent Persian Orange and a Transparent Permanent Yellow. These will not drop out, and are free from those defects you may have encountered in other yellow and Persian orange inks. Test out these inks, too, and you will be agreeably surprised at the results they give.

TRIANGLE INK and COLOR CO. INC

Manufacturers of Fine Litho & Printing Inks for All Purposes

Service Offices
219 W. FRANKLIN ST., BALTIMORE, MD.
231 CONGRESS STREET, BOSTON, MASS.
1036 BEAUBIEN ST., DETROIT, MICH.
13 SOUTH 3RD STREET, ST. LOUIS, MO.



Main Office & Factory
26-30 FRONT STREET, BROOKLYN, N. Y.
Telephone Triangle 5-3770-71



For the most readers in the most plants per page per issue, advertise in **The Photo-Lithographer.**

Sell More Paper

in this rich, receptive, rapidly growing market — the lithographic field — by advertising in

The Photo-Lithographer

which reaches practically every lithographer in the United States and Canada once a month.

- Readers include not only executives who choose and actually buy paper, but also those who **influence** such buying — for instance, superintendents and foremen who have the job of **working** with paper.
- In addition to your story in the regular advertising pages, you can have an insert of any kind of paper, printed by letterpress or photo-lithography, as you desire. Or you can arrange a swatch of several papers, or show an unusual fold or die-cut design — in fact, you can show almost anything that can be wire bound. This can be done only because The Photo-Lithographer is mailed under Section 574½, Postal Regulations.
- The Photo-Lithographer in this way can be not only a valuable addition to your regular advertising media, but also an important supplement, monthly, to your sample distribution.

Will Discuss New Developments At N. Y. P. L. A. Meeting

TWO men who have national reputations as experts in the lithographic field will address the New York Photo-Lithographers Association at its open dinner meeting, to be held the evening of Thursday, February 17, in the Tavern Restaurant, 444 Elizabeth Avenue, Newark.

William C. Huebner of Huebner Laboratories, New York, will give the Association and its guests the benefit of his many years spent in developing new and improved lithographic techniques by telling about "New Developments in Photo-Offset Process and Equipment."

Robert J. Butler, chemist with General Printing Ink Corporation, New York, who has had twenty years of experience, helping to develop printing inks, will describe "New Developments of the Ink Industry."

For several years the Newark members of the Association have faithfully travelled to New York every month to attend the monthly meetings. The Newark members appreciate the selection of their city for the February meeting and, according to Samuel Denburg, chairman of the dinner committee, they are doing their utmost to make it one of the most interesting that has ever been held by the Association.

The February meeting will be open to every one engaged in the lithographic or allied industries.

Mr. Denburg should receive reservations promptly so that adequate accommodations can be provided. The cost of each plate is \$1.50. Reservations should be sent to Samuel Denburg, Barton Business Service, 138 Washington Street, Newark, N. J.

Baldwin Now Handles Fraopaque

Fraser Industries, Inc., has appointed the Baldwin Paper Company, Inc., 233 Spring St., New York, a distributor of Fraopaque, a distinctly new paper nationally advertised under the slogan "Whiter White Paper." Baldwin will carry a complete stock of standard sizes and weights in both English and Vellum finishes.

American Markets New Paper

Eagle-A Leonardo is a new deckle edged paper created by American Writing Paper Corporation. Made in size 26 x 40, and in two weights—175M and 240M, its fine felt mark surface is well suited for offset lithography, according to the manufacturers.

Busk Will Tell Litho Club of Opportunities

At the monthly meeting of the Litho Club, New York, on Wednesday, February 16, the speaker will be A. F. Busk, New Era Manufacturing Company. His subject will be "The Opportunity for Webb Offset Presses."



call it which-
ever you please

BICHROMATE OR DICHROMATE

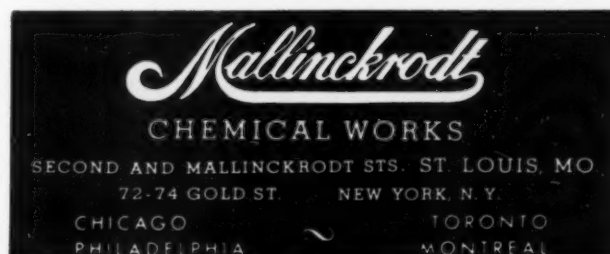
It doesn't matter what you call it, just so you specify Mallinckrodt, now highly refined with extremely brilliant crystals of rich red-orange color. Hold it in a good light, and you will say "that's a beautiful product". It is more than that —

A concentrated stock solution in pure water remains clear as crystal for weeks. This is an achievement into which have gone several years of studying the needs of lithography.

No flocculent suspension or precipitation to cause spots. Make a side-by-side test. See the difference.

Furthermore, the crystals are remarkably uniform — no dust — no lumping or caking — always free-flowing, easy to handle.

This is a worthy member of the Mallinckrodt Line of chemicals for lithographers, which includes practically every need from Acetic Acid to Zinc Stearate. Have you a catalog? If not ask for a copy and specify Mallinckrodt Ammonium Bichromate on your very next order.



PRACTICAL SUGGESTIONS FOR OPERATING THE LITHOGRAPHIC PRESS

Because of the variation in the sizes of sheets, it may be necessary to shift the front guides from right to left, or the reverse. This should be done when the grippers are in plain view so that there will be no danger of the grippers striking the guides.

Setting the Side-guide

On hand-fed presses the side-guide serves as a stop for the sheet when pushed against it by the feeder, and thus holds the sheet in position until it is seized by the grippers. It is essential that this guide be at right angles to the front guides if perfect register is to be obtained. The guide should never be shifted forward or backward while a job is being run.

With automatic feeders, the side-guide has a trifle different function, either drawing or pushing the sheet after it has reached the front guides, and thus gets it in the correct position for seizure by the grippers. It is a comparatively simple operation to change the position of a side guide; loosen one or more screws, making it possible to move it either to the right or left, and then tighten it in the correct position. More difficult is the adjusting of the jaws of the guide for different kinds and thicknesses of paper. With thin stock the opening should be so narrow as to prevent the sheet from curling or bending when it strikes the back of the jaw. With very thin sheets, the jaws of the guide should be set very close together, the opening being about twice the thickness of the sheet.

How to Set the Impression-Cylinder Grippers

These are the first devices to come in contact with the sheet, their purpose being to seize the sheet and hold it in position as it passes between the blanket cylinder and the impression cylinder, and to release as it is seized by the grippers of the delivery device. They are controlled by a cam, or often a stud, which operates in unison with the other parts of the press. Needless to say, the setting of these grippers should be entrusted only to an experienced person, the adjustment made with great care, and their operation inspected from time to time. There is no need to incorporate here all the troubles that may ensue if these grippers are not operating correctly. If they are out of alignment, or the gripper surfaces are not of equal distance from the surface of the cylinder, this means an uneven pull on the sheet. It is also possible that if the grippers do not exert sufficient pressure on the sheet, it will slip a trifle as it passes through, thus resulting in poor register.

If it is found that the grippers are out of alignment, a poor remedy is to file down the other gripper-posts until they are level with the worn one. In the long run, it is much better and more economical to substitute a new post for the one that is worn.

If the grippers are exerting an uneven pull, then locate those that are giving trouble and adjust them to correspond with the others. If the end gripper fails to grab the sheet, which is usually detected by torn sheets, then change its adjustment so it does not touch the sheet. It is not often that the grippers fail to exert sufficient pull, but when this happens, it is necessary to reset them all.

How to Set the Automatic-Feeder Devices

There is not space to describe fully the adjustment of all these devices. Detailed instructions can be found in the booklets published by the various feeder manufacturers. There are approximately 15 of these devices, each of which performs a different function, and each is important for the successful operation of the feeder.

Perhaps first in importance are the air pipes, which separate the sheets by a blast of air. Second are the sheet-forwarders, at the back corners of the pile of paper, and which pick up the sheet and assist in its forward movement. Next comes the combers which, as they revolve, pick up the back corners of the sheet. The function of the arms or rods on the side and back of the pile of paper is to hold the sheets in correct position. The rubber suction-feeds, at the front of the sheet, lift and carry it to the propellor, which consists of pull-in wheels. The calipers prevent two sheets reaching the tapes at the same time. These operate a governor-arm which trips the feeder, if two sheets are presented simultaneously to the tapes.

There are a number of other devices such as tapes, duck-feet, and slow-downs, brushes, stop-guides, and side-guides, each of which have an essential function in the correct operation of the feeding mechanism.

Setting the Delivery-Grippers

These grippers seize the printed sheet as it is released by the impression-grippers and convey it to the point where the sheets are piled. Here again great care must be exercised in adjusting the mechanism. The two sets of grippers operate in unison through a cam and if properly set, need not be touched unless the cam loosens or becomes worn.

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After a careful study of your plant set-up and market, we can recommend a plan, then handle copy, layouts, typography, illustrative material and art work, choice of paper, suggest tested methods for building mailing lists; write follow-up letters, and suggest, if advisable, supporting advertising in media other than direct mail.

Advertising Service not only can help you advertise yourself, both by direct mail and other media, but it can also prepare advertising for your customers.

Advertising campaigns recommended by us will include a budget of all costs involved up to the point of actual mechanical production. We assume that every lithographer will want to print his own advertising.

Fill out the questionnaire on the other side. Do it NOW! Mail it to us *today*, along with a letter covering details not provided for in the questionnaire. Then, without obligation to you in any way, we will study the facts regarding your situation and make recommendations for individual pieces or for an entire advertising campaign that will help you increase your sales.

ADVERTISING SERVICE

1776 Broadway, New York, N. Y.

TAKE THIS FIRST STEP TO *Increased Sales!*

ADVERTISING SERVICE, 1776 Broadway, New York, N. Y.

Date.....

Without obligation, we would like to know more about your service. The following information is sent you in confidence so that you can recommend an advertising plan to help us increase our sales.

We produce the following classes of work:

| | Per Cent of Gross Sales | | Per Cent of Gross Sales |
|--|----------------------------|--|----------------------------|
|Black and white combination work..... | |Posters and Point-of-Sale Displays..... | |
|Direct advertising (State if it falls into clearly defined classifications)..... | |School and College publications..... | |
|Bank and commercial stationery..... | |House Magazines..... | |
|The better grade of color work..... | |Metal Advertising..... | |
| | |Other work..... | |

Advertising material we have distributed during the last two years includes: (Send samples and tell how each "pulled")

In addition to direct mail, we use the following advertising media: (Send tear sheets and tell us about the results)

Our market has a radius of.....miles and includes: (State number and size of separate communities, extent of industrial and mercantile activity in each in terms of number of companies in each classification, number of large companies who are large buyers both of utility printing and direct advertising)

Our mailing list totals....., broken down approximately as follows:

- | | |
|---|--|
| a. Live local prospects, personally contacted by salesmen..... | c. Remote prospects (now using or partial to competitors, or inactive in the use of the quality or kind of work you do.) |
| b. Live out-of-town prospects, contacted only by mail..... ("Live" designating prospects likely to favor your company because of close personal connections, nearness to your plant, or partiality for the quality and kind of work you do.) | d. Occasional customers..... |
| | e. Active customers..... |

Our competition consists of:

(Mention number of competitors, whether letterpress printers or lithographers, whether located in or outside your territory, how their work and prices compare with yours, and the nature of their advertising)

We have.....salesmen. We hold sales meetings every..... Our salesmen are equipped as follows: (Mention sales visuals, manuals, or other selling aids)

Our equipment is as follows:

| PRESSES | | | Other Equipment |
|---------|-------------|--------------------|-----------------|
| Number | Press Sizes | One or Multi-Color | |
| | | | |
| | | | |
| | | | |

(Mention especially equipment not available in competing plants)

The special features of our organization which might be incorporated in sales messages include:

Expert Craftsmen.....Creative Personnel.....
Outstanding Work produced.....Citations, commendatory
letters, honorary awards..... Unusual Equipment.....

Well-known companies who are customers:

The following additional information may help you with your plan to help us increase our sales:

We are sending samples of work in each of the classifications checked above.

Firm Name Street or Avenue.....
Name of Individual..... City
Position with Firm..... State

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Throughout the country in hundreds of pressrooms Sinclair & Carroll inks are being chosen for their all around dependability and good color strength. These inks are supervised in their formulation and manufacture by men whose first consideration is the well being of this business. The uniformity of these inks is safeguarded for you. The Sinclair & Carroll label on your ink container is an added guarantee of good printed and lithographed results. We will welcome the opportunities you afford us to serve you constructively on your requirements.

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PRACTICAL SUGGESTIONS FOR OPERATING THE LITHOGRAPHIC PRESS

Since different presses have different types of delivery grippers, there is not space to explain here the various methods of adjustment. These are covered in full by the manuals supplied by the press manufacturers.

How to Set the Cylinder Pressure

There has been already explained how to obtain the correct printing pressure between the blanket-cylinder and the plate-cylinder. Another important adjustment is the obtaining of the correct pressure between the blanket-cylinder and the impression-cylinder, and in this operation there is a variable factor—the thickness of the sheet, which may range from stock .003 in thickness to cardboard 1/8 of an inch thick. When making ready the job, allowance must be made for these variations, since when the correct pressure is once determined only sheets of the same thickness can be used. While with some presses the impression-cylinder is covered with a blanket, with the majority of presses it is bare. We will consider only presses of this type. The accepted procedure is to place slips of paper of the same gauge or thickness of the sheet to be printed between the two cylinders and then bring the impression-cylinder in such close contact with the other cylinder that the slips of paper have a taut pull. Finer adjustment can be made later by means of the pressure-screws or other devices. Obviously, rough covers and soft papers require more pressure than hard smooth finish stocks. The exact amount of pressure required varies with the character of the work and the paper, and it is here that the best results depend so largely on the experience and judgment of the pressman.

How to Set and Operate the Ink Fountain

It should be kept in mind that offset inks should be reduced the least amount possible; that linseed oil varnish is the best of all reducers; that great care should be exercised when adding dryers to the ink. In short, with most work the ink should be used just as it comes from the can; in fact, in nearly every case when satisfactory results are not being obtained, it will be found that the fault is not with the ink, but either with the plate or the adjustment of the press.

Anyone who has watched a pressman place ink in the fountain will agree it requires some skill, since the operation consists of taking the ink from the slab and placing it in the fountain. The beginner, however, will soon learn the trick of rotating the palette knife so as not to lose a drop, either when

taking it from the slab, transferring it to the broad knife, or placing it in the fountain.

Setting the ink-fountain is also a comparatively simple operation. After noting the location of the work on the plate, it is only necessary to open those feed-screws which are delivering to that part of the plate. With the fountain screws, experience is the best guide. The skilled pressman needs only to glance at the plate, estimate the amount of ink needed, and then open or close the screws to meet the requirements of the job. Another adjustment is the ratchet gear-wheel on the end of the fountain-roller. There is no established standard for the adjustment of this gear-wheel. Its function is to feed ink to the ductor-roll in proper amounts for good printing.

How to Set and Operate the Dampening Rollers

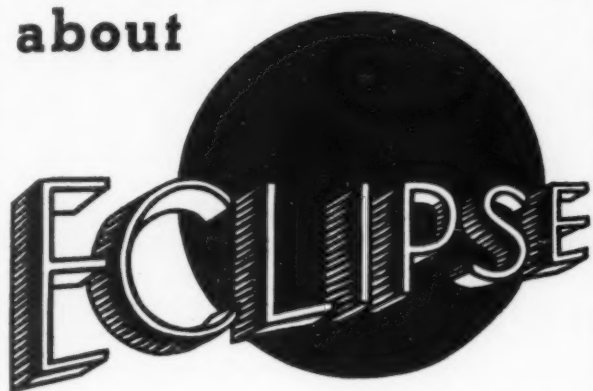
The amount of acid in the dampening solution must be determined by the character of the work. It should be remembered that the purpose of this solution is to keep open those parts of the plate which resist the ink, and that the more soft or greasy the ink, the more tendency it has to cover those parts of the plate it should not touch. Therefore the pressman should examine the job carefully and determine, as experience has taught him, the strength of the dampening solution.

There are a few lithographers who adhere to the belief that a job should be started using only water for the dampening solution. In any event, the solution should be kept as weak as possible and strengthened only when necessary. Obviously, if a new color of ink is to be used for the job, then the entire inking mechanism must be cleaned thoroughly. This applies only when a light color is to be substituted for a darker one. If, however, the opposite is the case, then not as great care need be exercised. If the ink is stiff, then the dog on the fountain-roller ratchet should be released, which permits the roller to run continuously, and thus more thoroughly break up the ink.

After examination of the design on the plate, the feed screws should be properly set, as nearly correct as can be determined at this stage. Now start the press, making sure that the form-rollers are off the plate, and continue until the rollers are thoroughly inked.

Now take a sponge saturated with water and the excess squeezed out and wash off plate thoroughly. The press is now started and the dampening lever placed in gear. The next operation is to set the dampening rollers, which should be done while

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PRACTICAL SUGGESTIONS FOR OPERATING THE LITHOGRAPHIC PRESS

press is running. The dampening rollers should distribute a thin volume of water evenly over the plate surface and are set so as to have about .003 of an inch between damper and brass roller. On plate they should have a very slight hop when cylinder comes to gap. Be very careful they do not bounce as this means too great a pressure on plate and will result in injury to plate. If no hop is noticed, chances are the dampening rollers are not in contact with plate sufficient to keep the plate damp.

What is known as the damper-ductor conveys the water from the fountain roller to the brass roller. It will be noted that this has a "dwell" when it comes in contact with the fountain roller, and this dwell may be increased or diminished as the work being printed requires. The adjustment of this mechanism is very simple, but varies with different presses.

How to Operate the Lithographic Press

After setting the dampening rollers and noting that all the other adjustments are approximately correct, the next step is to run a half dozen sheets through the press, and remove the last two or three to a table for examination. If possible, this examination should be by daylight, and a north light is the best. This examination is almost sure to reveal the need of further adjustments, probably the first being the correctness of the register. If it is a one-color job, all that is necessary is to determine if the impression is in the exact position on the printed sheet. This can be determined from the corner-marks on the plate. Of course, the position of the impression on the sheet should be checked for trimming and other details on the job ticket.

What has just been said always applies to the first color of a job to be printed in several colors. With the succeeding colors, however, one must make sure that the register marks print in exact register with those of the first color. This requires very careful adjustment of the front guides as well as the side guide.

With the better grades of work, the printed sheets should also be examined under a magnifying glass to detect slurring, darkening, double printing, etc., and if these defects cannot be remedied by the pressman, now is the time to ask for help from the plate-making department before proceeding further.

The next step is to check the sheet for the correct-

ness of the color of ink, as well as the amount of ink deposited on the sheets.

First, compare various parts of the printed sheet with the proof, folding the sheet so as to bring each part close to the same part of the proof. This will enable one to determine, tentatively, if the ink is of the right color. But before changing the ink or adding anything to it, the amount of ink on the sheet should be checked by rubbing the fingers over the impression, keeping them in contact until an open part is reached, and noting if any ink is carried on to the unprinted area, in which case it is obvious that too much ink is being delivered to the plate.

If it is found that more ink can be carried, and the color of the ink is too pale, it is probable that additional ink will bring the color up to the right strength or intensity.

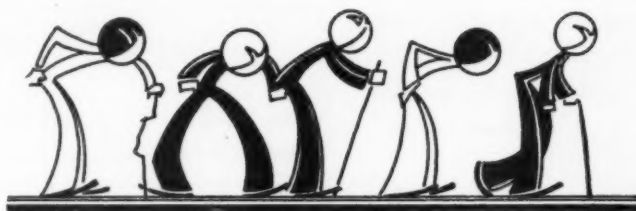
If the color of the ink seems flat and dull, this may be due to it being too soft, which can be corrected by the addition of a good stiffener such as boiled varnish.

If the heavy parts of the impression are pulling away the surface of the paper, this means the ink is too stiff, and the fault can be remedied by the addition of a small amount of reducer such as linseed oil varnish.

It should be kept in mind, however, that the ideal at which the pressman should aim is to use the least possible amount of reducer, which degrades the color strength of the ink, and also to use as little ink as possible, yet enough to give ample coverage to all parts of the design. This, of course, means a full impression, which should be checked before adding a reducer or increasing or decreasing the flow of ink to the plate.

Briefly, and assuming that the plate is satisfactory, and all the adjustments of the press are correct, to produce good work one should keep in mind that the minimum amount of ink should be used, as well as the least amount of water and the least amount of pressure. This is especially true of halftone work. Too much ink, water, or pressure means loss of detail and a generally unsatisfactory result.

The man who has acquired the habit of study, though for only one hour every day in the year, and keeps to the one thing studied till it is mastered, will be startled to see the progress he has made at the end of a twelve-month.—Bulwer.



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(Continued from page 24)

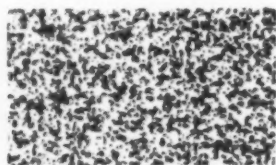
printing will not show the impression characteristic of letterpress, and will assuredly be more even both in outline and in the spread of ink than in gravure. As to halftone illustrations, when they are examined under a magnifying glass they will resemble letterpress printing. That is, the dots will be irregular, round or



diamond-shaped, of varying sizes, large and close together in the dense parts, smaller and spread out in the lights. The result will be distinguishable from relief printing, as we have said before, in that there will be no indication of impression. Rough and smooth-finished papers are used with equal facility.

Just as it is common practice to identify letterpress printing by its crispness, so it is equally common practice to identify offset printing by its softness. The test is apt to be as faulty in the one case as in the other. Offset, and particularly the deep-etched variety, may be quite as crisp as letterpress printing.

Lithography produced from a stone or a grained plate without the halftone screen is, of course more difficult to identify. There is no danger that such a lithographic print will be confused with letterpress. The difficulty lies in distinguishing it from gravure. The easiest way to identify such a print is to visualize the printed surface under consideration. Since the grain of the printing surface is irregular, even the densest blacks of a lithograph show some flecks of white. Furthermore, the lithograph, like the relief print, is made up of solid blacks spaced in a pure white in such a way that the black portions are very close together in the dark parts of the picture and far apart in the light parts. Therefore, the gray shades of a lithograph are made up of tiny black dots of irregular shapes set in an otherwise pure high-light. This differentiates the lithograph from collotype, in which

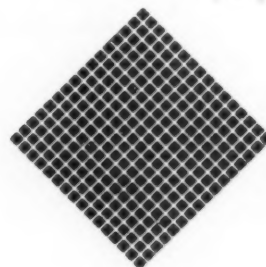


the grays are actually gray in continuous tone, and from irregular grained gravure, in which the grays are made up of flecks as in the lithograph, but flecks lighter in color owing to the fact that they carry less ink.

HOW TO IDENTIFY GRAVURE PRINTING



When the typical cross-line screen has been used there is no difficulty in identifying gravure. Unlike any other screen, the one that is usually used for gravure prints a square dot rather than one which is round or irregularly shaped. Gravure dots are of uniform size and regularly spaced, and vary one from another only in the amount of ink carried. This is the exact opposite of letterpress printing and lithography, in which the round or



diamond-shaped dots carry a uniform amount of ink, but vary in size and distance from one another.

It is easiest to identify gravure by an examination of the middle tones, since the screen pattern in the shadows and light tones is not nearly so pronounced. The shadows of gravure have a tendency to print solid. In fact, in such parts the screen can be detected only at the edges.

Type and similar solid matter examined under a magnifying glass show a feather edge. Tone illustrations are often used for gravure printing, not that line drawings cannot be effectively reproduced, but rather that they fail to exploit gravure's greatest advantage, the soft blending and gradation of tone values.

So far as identification is concerned, it is fortunate indeed that the cross-line screen is used in by far the greater volume of gravure printing, for when the irregular-grained mezzograph screen is used it is almost impossible to distinguish the finished gravure print from collotype. This grained screen is used principally for color work, and occasionally for monochrome book illustrations and reproductions of works of art.



*From Westvaco Inspirations for Printers, published by
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Is Quality Envable?

(Continued from page 12)

front-office notice. As it was, the costs were over, and the time promise not kept on that job.

That's the trouble with those salesmen. They make all sorts of promises—oh, yes, we'll get that in the camera—sure, that will photo all right—etc.—etc., and they don't know the first thing about it. How are we ever going to make profits around here if we reprint jobs and lose money on each job?

I AM THE PHOTOGRAPHER

Surely, a better negative of that copy can be made, but by no means as good as if the copy was retouched. I just shot that as regular copy along with other routine work. You know, I can't spend special time on each copy. Where will my time come in? The copy is lousy, but I did the best I could.

I AM THE PLATEMAKER

Why, yes, a sharper plate may have been made, but the negative was flat. I even cut down on the time but perhaps a bit still less time may help. But it was a rush job that had to go through. Besides, the foreman OK'd it. It's not bad from that copy. You can't get more excellence in the negative than the copy shows, and I can't give you anything better than the negative.

I AM THE ESTIMATOR

This job was figured on the "sharpen your pencil" plan. We were to get it if we did a piece of work, met a promise at a price, and gave a fair product. Under the circumstances we did well. As it was, the cost was away over that estimated, what with overtime and special color-matching time. Why doesn't someone tell me about those things; the special handling required, etc.? Who's going to pay for the loss on the first printing? A few more jobs like that and I'll soon be on the way out. If I figure that job again it will be at least 25% higher.

I HOLD THE BAG—I AM THE FRONT OFFICE

We can't offend our salesman. We need his accounts; in fact, we need more. But how long can we stay in business, throwing money out the window? We'll reprint this on the chance that we get the new account. Make up for it somehow. Miss Yessir, remind me to look into that better copy and promises angle. I'll check on this myself. Have to run over to see a prospect now and figure on a job. Hope we land this one and get it away from So-and-So.

Interesting? Sounds far-fetched, perhaps, yet it is almost word for word reporting on incidents in every shop at some time.

The Copy Is Important

The salesman, taking care of the customer, plays a large part here, doesn't he? He translates customer demand to shop terms so that capital, labor, and management can

faithfully turn out an acceptable product. It therefore becomes the salesman's part to furnish copy and material to the plant so that this translation becomes facile. So much of this work falls to the copy. As a matter of actual fact, this important document is THE determining factor, everything else being equal. With the advent of the camera came the increased importance of the copy to be used in the photographic process.

As good and progressive as the camera may be, it has its limitations. These, and imperfections in the rendition of the copy must be compensated for. The camera will all too often fail to render the tones and work apparent in the copy to the naked eye. Fine work and details that should appear on the finished product may be lost in excessive reduction of the copy. Yet because no extra charge has been made for this defective result, time cannot be spent in correction on the negative or finished plate. Or, if a job is wanted in special ink on special paper, and figuring is carried out with the idea in mind of a routine job, the negative is made in the routine manner, and as a consequence the product suffers.

The thought then occurs that the customer be informed of the shortcomings of the copy, and be apprised of the necessary work so that a high quality job can be produced.

An illustration may be in order here to sort of clarify the point. Twelve or sixteen scenes imposed upon a broadside ranged from one extreme type of copy to the other. There were ten of these broadsides to the job. To shoot the copy of each broadside *en toto* would cause a loss in some of the pictures, and a gain on others. This would yield pictures somewhat at variance with the copy. When the customer was told of the inevitable result with a quotation such as was handed in, he took a chance without any extra work. You see, the one copy that the estimate was based on permitted making one single complete shot.

(By the way, this idea of permitting the salesman only a rapid gander at the sketch or copy so that he can give back an estimate as quickly as he would repeat his name is another of the fallacies of snap judgment.)

The job turned out as was feared, even though extra time was put in here and there to get a passable result. The customer accepted that job, but the photographs on following campaigns were retouched before the camera received them. The second turned out so much better that the next try was duo-toned with a very fine result. But that took some selling, for the customer really thought it was just another build-up. Yet very few photographers or cameramen would have taken the entire copy on one shot, even when retouched, for the subjects were sometimes so widely different in character. But with a painstaking cameraman, the impossible was accomplished.

Therein lies another point. Every job is started in lithographic shops with the idea in mind of beating or improving the quality of the job or product. That impression has been carried with me from my earliest contact with

(Continued on page 69)

Modernize with MILES



MILES LAYOUT TABLE

This table is built of all metal, has double diffused glass, two sides perpendicular so that parallel and perpendicular lines can be drawn. It can be supplied flat, tilting, or in combination. Standard sizes:

26 x 30
40 x 50
52 x 72

Special sizes to order.

*You will save money both in equipment
and in production by buying from*

MILES MACHINERY CO.

Telephone: ALgonquin 4-2468

18 East 16th Street, New York

PLATE MAKING EQUIPMENT SPECIALISTS

If You Are Troubled

with problems such as

Paper distortion, seasoning, and wrinkling;

Poor register, streaks, and low spots in cylinders;

Need for air conditioning in the plate-making department and pressroom;

Unsatisfactory depth and sharpness in graining, and the removal of old work;

Electrical controls—braking with A. C., and change-over from D. C. to A. C.;

and your technical key men do not have the time to solve them

Consider My Consulting Service

My job is to solve such problems, concerned with the mechanical ills of lithography, to put new methods into practice, or to investigate the application of new developments to individual plants.

Twenty years of practical experience following a thorough academic training in engineering **should** fit me to help you.

C. W. LATHAM

6 Lafayette Street

Brooklyn, N. Y.



ZEISS LENSES

91 years devoted to the design, development and manufacture of precision optical instruments, have given to Zeiss Process Lenses, prisms and mirrors a quality that is unsurpassed. Catalog upon request.

CARL ZEISS, INC., 485 FIFTH AVENUE, NEW YORK
728 So. Hill St., Los Angeles



Z E I S S P R E C I S E

DRISCOLL'S Offset Inks

- Assure Foremost Pressroom Economy
- Highest Possible Color Values
- Unfailing and Dependable Working Qualities

They also give you the satisfaction of knowing that when you buy them you are dealing with a house deeply interested in working out your every GRAPHIC INK PROBLEM.

USE DRISCOLL'S OFFSET BLACK (0237)
IT IS NOTED FOR FINEST RESULTS

Write for Free Samples and Prices

MARTIN DRISCOLL & CO.

610 FEDERAL STREET
CHICAGO

BRANCH PLANT IN MILWAUKEE, WISC.

"WHERE TO BUY IT"

**This Handy Reference Page is a regular monthly feature of THE PHOTO-LITHOGRAPHER
It is an accurate guide to reliable firms**

Listings are carried on this page at the rate of *One Dollar Per Line per Month or Ten Dollars a Year Payable in Advance*

ACCOUNTANTS

Kromberg & Associates, C. P. A.'s, J., 461 Eighth Ave., New York, N. Y.
Levess, Herbert H., C. P. A., 360 W. 23rd St., New York, N. Y.
Reinish, Samuel S., C. P. A., 2 Lafayette St., New York, N. Y.

ACIDS

California Ink Co., Inc., 545 Sansome St., San Francisco, Calif.
Mallinkrodt Chemical Works, 3600 N. 2nd St., St. Louis, Mo.
National Offset Supply Co., St. Louis, Mo.,
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

ADDRESSING AND MAILING SERVICES

Ardlee Service, Inc., 28 W. 23 St., New York, N. Y.
Gray, James Letter Shop, 215 E. 45th St., New York, N. Y.

AIR CONDITIONING EQUIPMENT

Offen, B. & Co., 608 S. Dearborn St., Chicago, Ill.

ALUMINUM PLATES

(See Plates)

ALBUMEN

California Ink Co., Inc., 545 Sansome St., San Francisco, Calif.
Holland, Thor, 7048 Jones Ave., N. W., Seattle, Wash.
Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.
Mallinkrodt Chemical Works, 3600 N. 2nd St., St. Louis, Mo.
National Offset Supply Co., St. Louis, Mo.
Norman Willets Co., 318 W. Washington St., Chicago, Ill.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

ALIGNING PAPER

(See Vogeltypes Paper)

AMMONIUM DICHROMATE

Mallinkrodt Chemical Works, 3600 N. 2nd St., St. Louis, Mo.

ARC LAMPS

(See Lamps—Arc)

ASPHALTUM

Hilo Varnish Corporation, 42-60 Stewart Ave., Brooklyn, N. Y.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

ARTISTS

Hugo L. Sachs, 7 West 20th St., New York, N. Y.

ARTISTS' SQUARES

Zoltan, John M., 833 Lyman Ave., Oak Park, Ill.

ARTISTS' SUPPLIES

Peerless Blue Print Co., The, 347 Fifth Ave., New York, N. Y.

BELLOWS

United Camera Co., Inc., 1515 Belmont Ave., Chicago, Ill.

BENDAY AND SHADING MEDIUMS

(See Shading Mediums)

BINDINGS

Plastic—Brewer—Cantelmo Co., Inc., 118 E. 27th St., New York, N. Y.
Spiral—Spiral Binding Company, 148 Lafayette St., New York, N. Y.
Wire-O—Trussel Mfg. Co., Poughkeepsie, N. Y.
(See list of licensees in display advertisement)

BLANKETS

Bainbridge, Philip M. (Goodrich Rubber Blankets), 95 Madison Avenue, New York, N. Y.
California Ink Co., Inc., 545 Sansome St., San Francisco, Calif.
Ideal Roller & Mfg. Co., 2512 W. 24th St., Chicago, Ill.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Rapid Roller Co., Federal at 26th, Chicago, Ill.
Reed Roller & Supply Co., Inc., 415-417 Jackson St., San Francisco, Cal.
Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.

New Chemicals

(Continued from page 34)

chemicals and dampening methods to give cleaner plates with less water on the plate will result in longer plate life, and better printed work. Simplified deep etch processes will make this plate making method available to a larger number of lithographers.

SYNTHETIC COMPOUNDS

Synthetic colloids with controllable viscosities and molecular weights show marked advantages over naturally occurring materials for plate making. They will not spoil; they form tough resistant films and result in plates having excellent printing characteristics with dots true to size. Images can be heat hardened so as to bond firmly to the metal plate, making them almost as indestructible as the plate itself. Such colloids are derived from acetylene gas.

Other synthetic high molecular weight compounds function as gum arabic replacements and plate and fountain etches with properties unobtainable by any chemical compounds now used in lithography. Regardless of plate grain, the moisture requirement of the plate is reduced to a minimum and the moisture on the plate is very evenly distributed. The properties of these high molecular weight compounds are controllable, whereas those of natural products are not.

Dichromate sensitizers of a quality never before obtainable have been prepared and superior coatings result from their use.

Water soluble film forming materials, entirely synthetic, form transparent films of high strength with moisture penetration lower than that of brittle gum arabic films. Such materials applied to the non-printing portions of lithographic plates form excellent anti-oxidant coatings for protection of the plates when standing.

Lacquer-like coatings for surface plate images, substantially hydrocarbon insoluble, are more resistant than usual asphaltum washout solutions, and they incorporate ink attractive resinous bodies recently developed. A deep etch lacquer incorporating a highly ink receptive, water and acid proof resin, shows remarkable advantages in the deep etch process.

RADICAL IMPROVEMENTS PREDICTED

Chemical research, both theoretical and applied, is now helping the lithographer, and it is only logical to assume that it will assist in the development of the art and the science even more as time goes on. We may look for a real improvement in plate metals, and plate-making colloids. We should, in the future, have virtually a dry-offset process. Offset papers with characteristics far superior to those now obtainable will be available, within the next two years. Improved offset inks, for offset alone, will be made. Finally through the contributions of the chemists engaged in synthetic resin research, even the offset press itself will be changed.

Columbia Offset & Reproduction Corp.

- Artists to the trade
- Negatives, Positives and Process Work for Machine or Hand Transfer
- Originals on Stone & Plate

WE OPERATE NO PRESSES

NO CONNECTION WITH ANY
LITHOGRAPHIC PLANT

2 DUANE STREET, NEW YORK, N. Y.

Telephone: BEekman 3-2436

For BETTER
Reproduction

LEVY CAMERAS

Standard and Dark Room Types
Made of Wood or Metal

HALF TONE SCREENS

VACUUM
PRINTING FRAMES

LENSES - LAMPS

Manufactured by

REPRO-ART MACHINERY CO.

WAYNE AVENUE & BERKELEY STREET
PHILADELPHIA, PENNSYLVANIA

Sinclair & Carroll Co., Inc., 591 Eleventh Ave.,
New York, N. Y.
Sinclair & Valentine Co., 11 St. Clair Pl., New
York, N. Y.
Vulcan Proofing Co., 58th St. and First Ave.,
Brooklyn, N. Y.

BRONZERS

Henschel Mfg. Co., Milwaukee, Wis.

CAMERA CONTROLS

Douthitt Corp., The, 650 W. Baltimore Ave.,
Detroit, Mich.

CAMERAS

Agfa-Anseo Corp., Binghamton, N. Y.
California Ink Co., Inc., The, 545 Sansome St.,
San Francisco, Cal.
Eastman Kodak Co., 343 State St., Rochester,
N. Y.
Lanston Monotype Machine Co., 24th at Locust,
Philadelphia, Pa.
Levy, Max & Co., Wayne & Berkley, Philadelphia,
Pa.
Litho Equipment & Supply Co., 215 W. Ohio St.,
Chicago, Ill.
Miles Machinery Co., 18 East 16th St., New York,
N. Y.
Norman-Willets Co., 318 W. Washington St., Chi-
cago, Ill.
Ostrander-Seymour Co., The, 1870 S. 54th Ave.,
Cicero Station, Chicago, Ill.
Pitman, Harold M., Co., 150 Bay St., Jersey City,
N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Repro-Art Machinery Co., Wayne Ave. & Berkley
St., Philadelphia, Pa.
Robertson, R. R., 1 N. Canal St., Chicago, Ill.
Sullebarger, E. T., Co., 116 John St., New York,
N. Y., and 538 S. Clark St., Chicago, Ill.
Wesel Mfg. Co., 468 Fourth Ave., New York,
N. Y., and Scranton, Pa.
Zeiss, Carl, Inc., 485 Fifth Ave., New York, N. Y.

CARDBOARDS AND BRISTOLS

Wheelwright Papers, Inc., 230 Park Ave., New York,
N. Y.

CARBON (ARC LAMP)

Pease Co., C. F., The, 809 N. Franklin St., Chicago,
Ill.

CARBON PAPER RIBBONS

Remington Rand, Buffalo, N. Y.

CARBONS—Photographic

Hunt, Philip A., Company, 253 Russell St., Brook-
lyn, N. Y.—2432 Lakeside Ave., Cleveland,
Ohio—1076 W. Division St., Chicago, Ill.
Norman Willets Co., 318 W. Washington St.,
Chicago, Ill.
Sullebarger, E. T., Co., 116 John St., New York,
N. Y., and 538 S. Clark St., Chicago, Ill.

CHEMICALS

Agfa-Anseo Corp., Binghamton, N. Y.
California Ink Co., Inc., The, 545 Sansome St.,
San Francisco, Calif.
Eastman Kodak Company, Rochester, N. Y.
Hunt, Philip A., Company, 253 Russell St., Brook-
lyn, N. Y.—2432 Lakeside Ave., Cleveland,
Ohio—1076 W. Division St., Chicago, Ill.
La Motte Chemicals Products Co., 438 Light St.,
Baltimore, Md.
Mallinkrodt Chemical Works, 3600 N. Second St.,
St. Louis, Mo.
Merck & Co., Inc., Rahway, N. J.
National Offset Supply Co., St. Louis, Mo.
Norman-Willets Co., 318 W. Washington St., Chi-
cago, Ill.
Phillips & Jacobs, 622 Race St., Philadelphia, Pa.
Pitman, Harold M., Co., 150 Bay St., Jersey City,
N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St.,
New York, N. Y.
Siebold, Inc., J. H. & G. B., 47 Watts St., New
York, N. Y.

COLOR CONTROL AND MEASURING EQUIP- MENT

Huebner Laboratories, 202 E. 44th St., New York,
N. Y.

COMPOSITION

Monsen, Thormod and Son, Inc., 740 N. Franklin
St., Chicago, Ill.

COMPOSING MACHINES

Coxhead Corp., Ralph C., 17 Park Place, New
York, N. Y.

CRAYONS-LITHO

Korn, Inc., Wm., 120 Center St., New York, N. Y.
Roberts & Porter, Inc., 100 Lafayette St., New
York, N. Y., and 402 S. Market St., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St.,
New York, N. Y.

DAMPENING DEVICES

Goodrich, The B. F. Co., 570 S. Main St., Akron,
Ohio.
International Press Cleaner & Mfg. Co., The,
112 E. Hamilton Ave., Cleveland, Ohio.
Wagner, Charles, Litho Machine Co., 51 Park Ave.,
Hoboken, N. J.

DEEP ETCH SUPPLIES

Pitman, Harold M., Co., 150 Bay St., Jersey City,
N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Robertson, R. R., 400 W. Madison St., Chicago, Ill.
Schultz, H. J., 2230 N. Racine Ave., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St.,
New York, N. Y.

Is Quality Enviably?

(Continued from page 64)

lithography. Mechanics who inspect the copy at all, especially when the job is a reprint order, do so with the thought uppermost in mind and often expressed that "this is poor here and here, and this time we'll give the customer a better job." This holds true in new work also. Planning includes that thought. Shall we tackle this job by re-touching the photo or correct the negative, etc.? Furthermore, upon the job's completion there probably is always present the post mortem "It may have turned out better had we proceeded in the other manner."

Undoubtedly, every job is started with the best of intention of executing high quality work. But somewhere along the line a slip-up creeps in. A detour occurs. These take place because of various reasons. You who are working at the business know what they are in your plants. You know why that ink didn't dry; why that job had no punch; why that negative turned out so poorly; why that plate didn't stand up, etc., etc. Let's all resolve that during 1938 and thereafter lithography will be a credit to art. Why not deny impossible delivery dates that will smear the ink on folded sheets because the ink hasn't had a chance to dry.

Easy to say, but also easy to waive when the shop is pounding the salesman for work and the motive becomes "We'll make it up on the next job or order."

But it can be done and is being done. With all of us pressing in that direction, lithography cannot help but come through as the outstanding printing medium. Let quality be the yardstick, quality rendered in a manner to elevate the art and at the same time to yield a fair return on investment and labor in the industry.

Engraving Exhibit

At the Waldorf-Astoria Hotel, New York, from February 21st to 23rd, there will be an exhibition of modern engraving, containing specimens of distinctive engraved business stationery, colorful engraved Christmas cards, and the smartest in social engraving styles.

The thought back of this exhibit is to acquaint advertising men, printers, stationers, and the public, with the strides that progressive engravers are making in designing smart stationery.

As this engraving exhibit, which is being sponsored by Engraved Stationery Manufacturers Association and the Employing Engravers Association of New York, will be held during the paper trades convention, it is expected that many of the delegates to that meeting will avail themselves of the opportunity to view an exceptional showing of steel and copper plate engraving and printing.

ZINC AND ALUMINUM PLATES

Ungrained—Grained—Regrained

We also make a specialty of all the small plates as well as the Multilith

**SERVICE PLUS
QUALITY**

Largest in the World

**LITHOGRAPHIC PLATE GRAINING CO.
OF AMERICA INC.**

41-43 Box St. BROOKLYN, N. Y.

Phones: Evergreen 9-4260
4261

KopyKomposers

**A COPY PREPARATION SERVICE FOR
THE QUALITY OFFSET LITHOGRAPHER**

A SERVICE INCLUDING

- Typewriting
- Vari-Typer Composition
- Typesetting
- Lettering
- Sketches, Drawings, Drafting
- Layout and Paste-up

FOR QUALITY COPY WRITE OR PHONE

KopyKomposers

BOURSE BUILDING, PHILADELPHIA, PA.

LOMBARD 3377 • No affiliation with any offset plant

DICHROMATE—Ammonium Photo Granular

Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.

DIE CUTTING MACHINE—Semi-Automatic

Krause U. S. Corp., Karl, 55 Vandam Street, New York, N. Y.

DRIER—Paste and Liquid

Indiana Chemical & Mfg. Company, Indianapolis, New York City, Chicago.

DRYING OVENS

Zarkin Machine Co., Inc., 355 E. 27th St., New York, N. Y.

DRYERS

Carter, C. W. H., 100 Varick St., New York, N. Y.
Hilo Varnish Corporation, 42-60 Stewart Ave., Brooklyn, N. Y.
Sinclair & Valentine Co., 11 St. Clair Pl. New York, N. Y.

DYNAMOS—MOTORS—PRESS DRIVES AND ELECTRICAL CONTROL EQUIPMENT

American Type Founders Sales Corp., 200 Elmora, Ave., Elizabeth, N. J.
Cline-Westinghouse, Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Kimble Electric Co., W. 14th St. & S. Damen Ave., Chicago, Ill.
Northwestern Electric Co., 408 S. Hoyne, Chicago, Ill.
Robbins & Meyers, Inc., Springfield, Mo.

ENVELOPES

Dayton Envelope Co., Dayton, Ohio.

ETCHES

Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

FADE-O-METER

Atlas Electric Devices Co., 361 W. Superior St., Chicago, Ill.

FILMS

Agfa Ansco Corp., Binghamton, N. Y.
California Ink Co., Inc., The, 545 Sansome St., San Francisco, Cal.
Eastman Kodak Co., Rochester, N. Y.
Gevaert Co. of America, Inc., The, 423 W. 55th St., New York, N. Y.
Haloid Co., The, 6 Haloid St., Rochester, N. Y.
Hammer Dry Plate Co., Ohio Ave. & Miami St., St. Louis, Mo.
Norman-Willeys Co., 318 W. Washington St., Chicago, Ill.
Polygraphic Co. of America, 310 E. 45th St., New York, N. Y.

FLANNEL

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Gevaert Co. of America, Inc., The, 423 W. 55th St., New York, N. Y.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

FOLDING MACHINERY

Baum, Russell Ernest, 615 Chestnut St., Phila., Pa.
Dexter Folder Co., 28 W. 23rd St., New York, N. Y.

GLYCERINE

Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

GRAINING FLINT

New England Quartz Co. of New York, 450 Seventh Ave., New York, N. Y.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

GRAINING AND REGRAINING—Zinc, Aluminum, Glass and Multilith Plates

Chicago Litho Plate Graining Co., 214-16 N. Clinton St., Chicago, Ill.
Illinois Litho Plate Graining Co., 913-921 W. Van Buren St., Chicago, Ill.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
Lithographic Plate Graining Co., 41 Box St., Brooklyn, N. Y.
Maddox Lithoplate Graining Corp., 503 S. Jefferson St., Chicago, Ill.
McKenna, James J., 1015 Callowhill St., Phila., Pa.
National Offset Supply Co., 613 N. Broadway, St. Louis, Mo.
Photo Litho Plate Graining Co., Inc., 1207 S. Highland St., Baltimore, Md.
Reliable Lithographic Plate Co., Inc., 17 Vandewater St., New York, N. Y.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.
Western Litho Plate & Supply Co., 1019 Souard St., St. Louis, Mo.

GRAINING MACHINES

Fritsche, R., 145 Hudson St., New York, N. Y.
Hoe, R., & Co., Inc., 910 E. 138th St., at East River, New York, N. Y.
McKinley Litho Supply Co., 1600 John St., Cincinnati, O.
Zarkin Machine Co., 335 E. 27th St., New York, N. Y.

IPI Rewards Winners



This is the Franklin Medallion which went to local winners at each of the 280 schools entered in the IPI Essay Contest on Color, sponsored in cooperation with the National Graphic Arts Education Guild.

At many schools, the awards were presented in connection with Franklin ceremonies held during Printing Education Week, January 16-22.

When You Show Samples—

(Continued from page 40)

of achievement as they are, will prove to be sales detriments instead of sales assets and allies if we assume that merely displaying them will win our sales battles for us. We need to bear in mind that the prospect seldom wants a thing just because it found favor with somebody else. We must visualize a valuable service it will render him before he will feel that way. Inspiring such visualization is as much the job of photo-lithographic selling today as it was in days when convincing samples were less numerous.

Photo-lithographic selling must concern itself today with the prospective customer's advertising and selling problems just as much as it did during its pioneering days. Let's not waste valuable sales time and opportunities hoping that the prospect will want us to approximately duplicate something we have already done. He may want a similar result or performance duplicated, but that is all the duplication we have any right to hope for. Furthermore, he will not even look to us for that unless we approach him in the spirit of helping him to turn out his promotional material better and more economically than is possible if other processes are used.

So, let's think less about our samples as such, and use them as sample demonstrations of what our process has done for others and, most important, what it can do for the prospect with whom we are in contact.

We all agree that if a specialty salesman wants to sell a device or a machine, the thing for him to do is to demonstrate it; to show it in action; to indicate what it will do. That holds good equally where selling is done with the aid of samples. They are not just to be exhibited; they must be "demonstrated" to convince the prospect that they are useful and serve, along with being attractive.

FEBRUARY 1938



This Shows Why

Actual unretouched photomicrographs show why **EGGSACT**, the processed liquid albumen concentrate, gives such distinctly superior results

EGGSACT
Magnified 50 times

ORDINARY ALBUMEN
Magnified 50 times

An **EGGSACT** printing surface is practically free of impurities and insoluble matter, whereas ordinary egg albumen produces large surface cracks and minute fractures, due to presence of natural impurities and insoluble matter. An **EGGSACT** coated plate prints clear-edge impressions of the halftone dots... sensitize your plates with **EGGSACT**.

EGGSACT

Registered Trade Mark

THOR HOLLAND COMPANY

7048 JONES AVENUE, N. W., SEATTLE, WASHINGTON

PRINTERS and LITHOGRAPHERS!

Let us

BE YOUR PHOTOGRAPHIC AND PLATE DEPARTMENT

Transfer and Press Plates of highest quality made with our special "Protalbin" process. Line — Halftone — Black and color plates.

Strictly a trade house—
Absolutely no printing.

Estimates Cheerfully Submitted

PRINTERS' OFFSET PLATE CO.

103 Lafayette Street, New York City

Telephone: CAnal 6-4653

DICHROMATE—Ammonium Photo Granular

Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.

DIE CUTTING MACHINE—Semi-Automatic

Krause U. S. Corp., Karl, 55 Vandam Street, New York, N. Y.

DRIER—Paste and Liquid

Indiana Chemical & Mfg. Company, Indianapolis, New York City, Chicago.

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Sinclair & Valentine Co., 11 St. Clair Pl. New York, N. Y.

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General Electric Co., Schenectady, N. Y.
Kimble Electric Co., W. 14th St. & S. Damen Ave., Chicago, Ill.
Northwestern Electric Co., 408 S. Hoyne, Chicago, Ill.
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Haloid Co., The, 6 Haloid St., Rochester, N. Y.
Hammer Dry Plate Co., Ohio Ave. & Miami St., St. Louis, Mo.
Norman-Willets Co., 318 W. Washington St., Chicago, Ill.
Polygraphic Co. of America, 310 E. 45th St., New York, N. Y.

FLANNEL

Fuchs & Lang Mfg. Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
Gevaert Co. of America, Inc., The, 423 W. 55th St., New York, N. Y.
International Printing Ink Corporation, 75 Varick St., New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

FOLDING MACHINERY

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Dexter Folder Co., 28 W. 23rd St., New York, N. Y.

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Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.

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New England Quartz Co. of New York, 450 Seventh Ave., New York, N. Y.
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Illinois Litho Plate Graining Co., 913-921 W. Van Buren St., Chicago, Ill.
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Lithographic Plate Graining Co., 41 Box St., Brooklyn, N. Y.
Maddox Lithoplate Graining Corp., 503 S. Jefferson St., Chicago, Ill.
McKenna, James J., 1015 Callowhill St., Phila., Pa.
National Offset Supply Co., 613 N. Broadway, St. Louis, Mo.
Photo Litho Plate Graining Co., Inc., 1207 S. Highland St., Baltimore, Md.
Reliable Lithographic Plate Co., Inc., 17 Vandewater St., New York, N. Y.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.
Western Litho Plate & Supply Co., 1019 Souard St., St. Louis, Mo.

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Fritsche, R., 145 Hudson St., New York, N. Y.
Hoe, R., & Co., Inc., 910 E. 138th St., at East River, New York, N. Y.
McKinley Litho Supply Co., 1600 John St., Cincinnati, O.
Zarkin Machine Co., 335 E. 27th St., New York, N. Y.

IPI Rewards Winners



This is the Franklin Medallion which went to local winners at each of the 280 schools entered in the IPI Essay Contest on Color, sponsored in cooperation with the National Graphic Arts Education Guild.

At many schools, the awards were presented in connection with Franklin ceremonies held during Printing Education Week, January 16-22.

When You Show Samples—

(Continued from page 40)

of achievement as they are, will prove to be sales detriments instead of sales assets and allies if we assume that merely displaying them will win our sales battles for us. We need to bear in mind that the prospect seldom wants a thing just because it found favor with somebody else. We must visualize a valuable service it will render him before he will feel that way. Inspiring such visualization is as much the job of photo-lithographic selling today as it was in days when convincing samples were less numerous.

Photo-lithographic selling must concern itself today with the prospective customer's advertising and selling problems just as much as it did during its pioneering days. Let's not waste valuable sales time and opportunities hoping that the prospect will want us to approximately duplicate something we have already done. He may want a similar result or performance duplicated, but that is all the duplication we have any right to hope for. Furthermore, he will not even look to us for that unless we approach him in the spirit of helping him to turn out his promotional material better and more economically than is possible if other processes are used.

So, let's think less about our samples as such, and use them as sample demonstrations of what our process has done for others and, most important, what it can do for the prospect with whom we are in contact.

We all agree that if a specialty salesman wants to sell a device or a machine, the thing for him to do is to demonstrate it; to show it in action; to indicate what it will do. That holds good equally where selling is done with the aid of samples. They are not just to be exhibited; they must be "demonstrated" to convince the prospect that they are useful and serve, along with being attractive.



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Norman Willets Co., 318 W. Washington St., Chicago, Ill.

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INK COMPOUNDS

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August Corp., Charles, The, 416 Orleans St., Chicago, Ill.

Bowers Printing Ink Co., 711 W. Lake St., Chicago, Ill.

Braden-Sutphin Ink Co., 1736 E. 22nd St., Cleveland, Ohio

California Ink Co., 545 Sansome St., San Francisco, Calif.

Ceb Printing Ink Co., Chicago, Ill.

Crescent Ink & Color Co. of Penn., 464 N. 5th St., Phila., Pa.

Driscoll, Martin & Co., 610 Federal St., Chicago, Ill.

Flint Ink Co., Howard, 2545 Scotten Ave., Detroit, Mich.

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Gaetjens, Berger & Wirth, Inc., 35 York Street, Brooklyn, N. Y., and 538 S. Clark St., Chicago, Ill.

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Huber, Inc., J. M., 460 W. 34th St., New York, N. Y.

International Printing Ink Corp., 75 Varick St., New York, N. Y.

Johnson & Co., Inc., Charles Eneu, 10th & Lombard Sts., Phila., Pa.

Kohl & Madden Printing Ink Co., 731 Plymouth Court, Chicago, Ill.

Levey Co., Inc., Frederick H., 59 Beekman St., New York, N. Y.

Mayer Co., Inc., Robert, 1107 Grand St., Hoboken, N. J.

National Offset Supply Co., St. Louis, Mo.

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Reed Roller & Supply Co., Inc., 415 Jackson St., San Francisco, Cal.

Roberts, Inc., Lewis, 72 Union St., Newark, N. J.

Roosen Co., H. D., Ft. 20th-21st St., Brooklyn, N. Y.

Schwarm & Jacobus Co., The, 1216 Jackson St., Cincinnati, Ohio

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Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.

Sinclair & Carroll Co., Inc., 591 11th Ave., New York, N. Y.

Sinclair & Valentine Co., Inc., 11-21 St. Clair Pl., New York, N. Y.

Sleight Metallic Ink Companies, Inc., 538 N. Third St., Phila., Pa.

Triangle Ink & Color Co., Inc., 26 Front St., Brooklyn, N. Y. (also Boston, Mass., Baltimore, Md., and St. Louis, Mo.).

Williams Co., Inc., R. S., 257 W. 17th St., New York, N. Y.

Winslow Ink Corp., 124-132 White St., New York, N. Y.

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LAMPS, ARC

Atlas Electric Devices Co., Inc., 361 W. Superior St., Chicago, Ill.

Gelb Co., Joseph, 250 W. 54th St., New York, N. Y.

Studies in Sales Management

(Continued from page 30)

Deliberately, I have taken rather an unusual kind of salesman. There are countless numbers of his type. Even if not plagued with personal difficulties sufficient to make them forget what it is they saw and heard a few weeks ago, nevertheless they are not self-sufficient.

They lack necessary, fundamental knowledge. Furthermore, they do not realize nor understand the needs of customers and prospects, and cannot adopt the services of their respective houses to such needs.

The publisher of THE PHOTO-LITHOGRAPHER a year or two ago recommended that all applicants for selling positions be questioned with a view to grading their knowledge. They should be able to answer elementary questions concerning half-tones, ben days, simple color, printing, paper, photo-engraving, etc. Unless you take them on an altogether different basis, be sure they possess an understanding of what photo-offset is all about. Otherwise, you are going to waste time and good money.

Your quiz should go further. Assemble sets of possible situations in which the salesman who represents your house might find himself. Determine whether he is self-sufficient enough to come through creditably.

You might test the working knowledge of your other salesmen. Perhaps because they are deficient in knowledge they cannot do more for themselves and for you.

To salesmen who read these installments: In practically every number of THE PHOTO-LITHOGRAPHER are informative articles. Do more than scan these. Study them. Apart from study, analyze the difficult situations in which you find yourself in your daily work. Make positive that you profit by these, and convert them into stepping stones to successful selling. Do not be afraid to review such situations with your sales manager or your boss.

National Photo Wins First Prize

A dramatic photograph of the New York skyline at night, which appears on the 1938 calendar of National Process Co., won first prize at the exhibit held in January by the N. Y. Press Photographers' Association.

Vincent Lopez of the camera staff of the New York Sun made the photograph, which is called "The Lonely Sentinel." National Process Co. attractively reproduced it in duotone.

Levey Co. Changes Baltimore Address

Fred'k H. Levey Co., Inc., originators of the Flashdri printing process and manufacturers of all types of printing inks, have announced a new location for their Baltimore office and service station, at 2924 Silver Hill Avenue, Baltimore, Md. Their new Baltimore representative, Howard J. Conroy, will carry a large stock of inks and will maintain facilities for matching and servicing.

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 Wis.
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 lyn, N. Y.—2432 Lakeside Ave., Cleveland,
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 Zeiss, Inc., Carl, 485 Fifth Ave., New York, N. Y.

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 Phila., Pa.
 Miles Machinery Co., 18 E. 16th St., New York,
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 Robertson, R. R., 400 W. Madison St., Chicago, Ill.
 Wesel Mfg. Co., 468 Fourth Ave., New York, N. Y.,
 and Scranton, Pa.

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 Roberts & Porter, Inc., 100 Lafayette St., New
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 Senefelder Company, Inc., The, 32-34 Greene St.,
 New York, N. Y.
 Siebold, Inc., J. H. & G. B., 47 Watts St., New York,
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 Wagner, Charles, Litho Machinery Co., Div. of
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 Cramer Dry Plate Co., G., Lemp & Shenandoah
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OFFSET PLATE MAKING SERVICE

(See Plate Making Service)

LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstracters or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents (in stamps). Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio.

Photography and Color Correction

Half-tone Screen and Method of Manufacture Thereof. F. C. Zoller. *U. S. Patent* No. 2,082, 475 (June 1, 1937). The method of making a half-tone screen comprising engraving a transparent plate by rubbing an abrasive in a circular movement over the surface thereof, coating the surface so engraved with an opaque material, permitting said opaque material to partially dry, then removing the opaque material from unetched portions of the plate, but allowing the opaque material to remain within the etched lines. A half-tone screen comprising a transparent plate, irregular overlapped arcuate engravings upon a surface thereof, said engravings being filled with an opaque material.

Universal Screen for Preparing Half-tones. C. W. Bennett. *U. S. Patent* No. 2,095,909 (Oct. 12, 1937). The method of producing a contact screen photographically in a camera which comprises establishing a source of light giving uniform diffuse illumination; placing a transparent contact screen medium having a light-sensitive surface in one end of the camera; disposing a transparent screen having opaque lines thereon in the camera at twice the half-tone separation distance from the contact screen medium, interposing an annular diaphragm opening, and then a circular diaphragm opening between the light source and the screen; and exposing the light-sensitive surface of the contact screen medium to the action of the light from said source admitted to the camera successively through each of the diaphragm openings, the time of exposure through the annular diaphragm opening being relatively much less than that through the circular diaphragm opening.

Photographic Half-tone Screen Material and Process. A. Murray. *U. S. Patent* No. 2,102,021 (Dec. 14, 1937). A photographic element comprising a support, an emulsion layer on said support, a developed and fixed half-tone screen image of a uniform light source in one



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International Printing Ink Corporation, 75 Varick
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New England Quartz Company of New York, 450
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Seibold, Inc., J. H. and G. B., 47 Watts St., New
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Senefelder Company, Inc., The, 32-34 Greene St.,
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Zarkin Machine Co., Inc., 355 E. 27th St., New
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PLATE MAKING EQUIPMENT

California Ink Co., Inc., The, 545 Sansome St., San
Francisco, Cal.

stratum of the emulsion layer, and a developed and fixed continuous-tone image of a subject in a separate stratum of the emulsion layer.

Color Corrected Photo-Mechanical Printing Plate. A. Murray. *U. S. Patent* No. 2,102,022 (Dec. 14, 1937). The method of making a set of color-corrected plates for photo-mechanical printing, which comprises forming blue, green, and red color separation negatives of an original in silver halide emulsions, printing positives of the color separation negatives representing colors requiring correction in sensitive silver halide emulsions, and before developing, desensitizing said positives and then exposing them separately to red light under a color filter negative representing another color, then developing and fixing the corrected color separation positives, and printing a positive directly from the remaining color filter negative.

A New Method of Highlighting Negatives. K. W. Martin. *THE PHOTO-LITHOGRAPHER*, 5, No. 10, Oct. 1937, pp. 45, 47, 61. The most important use of the Sterling-Groesbeck Diaphragm is in producing highlight half-tones without appreciable loss of detail. The diaphragm can also be used to highlight wash drawings, vignette machinery or furniture, and to reproduce pencil drawings. Experiments are also being made in the field of color photography. The instrument consists of a blade or tongue which, along with the stop, fits into the slot of the process lens, and a micrometer screw by which the stop can be accurately positioned in the lens. The action of the diaphragm is explained briefly.

How Should Film Be Handled? Anonymous. *THE PHOTO-LITHOGRAPHER*, 5, No. 9, Sept. 1937, pp. 66 and 68. The manufacture of photographic film is described briefly and shown in graphic form in a diagram. Precautions useful in avoiding shrinkage, expansion, and distortion are (1) limited fixing and washing times, (2) use of a hypo bath containing potassium metabisulfite, (3) complete drying, (4) uniform handling of sets of color negatives, (5) careful storing of film as regards its position, temperature, and humidity.

Planographic Printing Surfaces and Plate Preparation

Counter-etching and Etching. L. R. Meloy. *THE PHOTO-LITHOGRAPHER*, 5, No. 10, Oct. 1937, pp. 53, 64-5. Counter-etching (1) cleans the plate of dirt and graining residue and (2) exposes bare metal by renewing oxide coating. Counter-etches must be removed completely by thoroughly flushing with water. The purpose of the etch is to produce a protecting film on the non-image areas. Gum arabic solution is employed, usually with the addition of acids. The film formed is soft, however, and easily damaged by friction, abrasion, or counter-etching acids. Formulas are given for counter-etches and etches.

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 Wesel Mfg. Co., 468 Fourth Ave., New York, N. Y., and Scranton, Pa.

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Chicago Litho Plate Graining Co., 214 N. Clinton St., Chicago, Ill.
 Columbia Offset & Reproduction Corp., 2 Duane St., New York, N. Y.
 Offset Engravers Associates, Inc., 42 E. 20th St., New York, N. Y.
 Offset Printing Plate Co. of New York, Inc., 100 Bleecker St., New York, N. Y.
 Offset Products Corporation, 103 Lafayette St., New York, N. Y.
 Rightmire-Berg Co., 717 S. Wells St., Chicago, Ill.
 Swart-Reichel, Inc., 461 Eighth Ave., New York, N. Y.
 Stevenson Photo Color Separation Co., 222 W. Fourth St., Cincinnati, Ohio

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Aluminum Co. of America, Gulf Bldg., Pittsburg, Pa.
 American Zinc Products Co., Greencastle, Ind.
 Edes Mfg. Co., The, Plymouth, Mass.
 International Printing Ink Corporation, 75 Varick St., New York, N. Y.
 Lithographic Plate Graining Co., 41 Box St., Brooklyn, N. Y.
 Matthiessen & Hegeler Zinc Co., Ninth St., LaSalle, Ill.
 National Litho Plate Co., The, 35 Meadow St., Brooklyn, N. Y.
 National Offset Supply Co., St. Louis, Mo.
 Photo-Litho Plate Graining Co., Inc., 1207 S. Highland St., Baltimore, Md.
 Reed Roller & Supply Co., Inc., 415-417 Jackson St., San Francisco, Cal.
 Reliable Lithographic Plate Co., Inc., 17 Vandewater St., New York, N. Y.
 Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

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 Gevaert Co. of America, Inc., The, 423 W. 55th St., New York, N. Y.
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 Norman-Willets Co., 318 W. Washington St., Chicago, Ill.

Polygraphic Company of America, Inc., 310 E. 45th St., New York, N. Y.

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Rolled Plate Metal Co., 210 Van Brunt St., Brooklyn, N. Y.

PRESSES—New

Griffiths Co., Inc., John, 145 Nassau St., New York, N. Y.
 Harris-Seybold-Potter Co., 4510 E. 71st St., Cleveland, Ohio
 Hoe, R., & Co., Inc., 910 E. 138th St., at East River, New York, N. Y.
 Miehle Printing Press & Mfg. Co., 14th St., and S. Damen Ave., Chicago, Ill.
 New Era Mfg. Co., 145 Nassau St., New York, N. Y.
 Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.
 Wagner, Charles, Litho Machinery Co., Div. of National-Standard Co., 51 Park Ave., Hoboken, N. J.
 Webendorfer-Wills Co., Inc., Mount Vernon, N. Y.
 Willard Press Mfg. Co., 28 W. 23rd St., New York, N. Y.

PRESSES—Rebuilt Litho

Miles Machinery Co., 18 E. 16th St., New York, N. Y.
 Zarkin Machine Co., Inc., 355 E. 27th St., New York, N. Y.

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 Wagner, Charles, Litho Machinery Co., Div. of National-Standard Co., 51 Park Ave., Hoboken, N. J.

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Miles Machinery Co., 18 E. 16th St., New York, N. Y.
 Zarkin Machine Co., Inc., 355 E. 27th St., New York, N. Y.

Planographic Printing and Plate Method of Using Same. W. T. Hagelin. *U. S. Patent* No. 2,104,126 (January 4, 1938). A planographic printing plate comprising a rolled zinc foil having minute tears or pits fortuitously formed in one surface thereof by the action of the rollers, such surface constituting the printing face of the plate and consisting of mutually isolated pits separated from each other by smooth intervening surfaces at the same general level.

Equipment and Materials

Offset Press Specification Chart. Anonymous. *THE PHOTO-LITHOGRAPHER*, 5, No. 9, Sept. 1937, pp. 84-5. Offset press specifications revised to September 1, 1937, are given in chart form for the following manufacturers: Harris, Hoe, Miehle, Rutherford, Webendorfer, and Willard.

Dual Dampening and Inking Mechanism for Planograph and Analogous Presses. J. G. Goedike. *U. S. Patent* No. 2,103,254 (Dec. 28, 1937). The method of inking and dampening printing surfaces of planographic and analogous printing members, which consists in transmitting water from a source of supply to an inking mechanism, transmitting the water together with a film of ink to said printing member through said ink distributing system, whereby an ink repelling coating of water will be applied to the non-design portions of a printing surface and ink will be applied to the design portions of said surface.

Printing-Machines. A. Schlesinger. *British Patent* No. 472,894 (Accepted Feb. 1, 1936). Modifications of the inking-apparatus described in the parent specification in which a number of sets of ink-rubbing rollers are arranged between the ink supply and the main distributors, to grind the ink and increase its fluidity, the sets delivering ink alternately to the distributors comprise (1) the provision of ink transferring devices, e. g. rocking messenger rollers, between the sets of ink-rubbing rollers and the first main distributing roller, and (2) the arrangements of the sets of ink rubbing rollers so that they are movable relatively to one another instead of being all mounted on a common carrier.

Good Rollers Play an Important Part in Production. Anonymous. *THE PHOTO-LITHOGRAPHER*, 5, No. 9, Sept. 1937, pp. 44-5, 123. Litho rollers must resist water and acid, as well as the ink vehicle. The surface, interior structure, and dimensions of the roller are discussed, and specifications are drawn up for the theoretically perfect offset roller, in respect to hardness, evenness, strength, tackiness or suction, resistance to abrasion, and resistance to oil, color-absorption, oxidation, water, and atmospheric conditions.

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Niles & Nelson, Inc., 75 West St., New York, N. Y.
Rapid Roller Co., Federal at 26th, Chicago, Ill.
Roberts & Porter, Inc., 100 Lafayette St., New York, N. Y., and 402 S. Market St., Chicago, Ill.
Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.
Vulcan Proofing Co., 58th St. & First Ave., Brooklyn, N. Y.

SCREENS—Halftone

Miles Machinery Co., 18 E. 16th St., New York, N. Y.
Ostrander-Seymour Co., The, 1870 S. 54th Ave., Cicero Station, Chicago, Ill.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Repro-Art Machinery Co., Wayne Ave. & Berkeley St., Philadelphia, Pa.
Sullebarger Co., E. T., 116 John St., New York, N. Y., and 538 S. Clark St., Chicago, Ill.

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Craftint Mfg. Co., 210 St. Clair Ave., Cleveland, Ohio
Lanston Monotype Machine Co., 24th at Locust, Phila., Pa.

SILVER BATHS

Douthitt Corp., The, 650 W. Baltimore Ave., Detroit, Mich.

SODIUM SULPHITE ANHYDROUS PHOTO

Hunt, Philip A., Company, 253 Russell St., Brooklyn, N. Y.—2432 Lakeside Ave., Cleveland, Ohio—1076 W. Division St., Chicago, Ill.
Mallinkroekdt Chemical Works, 3600 N. 2nd St., St. Louis, Mo.
Norman Willets Co., 318 W. Washington St., Chicago, Ill.

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Monitor Controller Co., Inc., 51 S. Gay St., Baltimore, Md.

STRIPPING TABLE

Miles Machinery Co., 18 E. 16th St., New York, N. Y.

Wesel Mfg. Co., 468 Fourth Ave., New York, N. Y., and Scranton, Pa.
Zarkin Machine Co., Inc., 355 E. 27th St., New York, N. Y.

SULPHUR

Mallinkroekdt Chemical Works, 3600 N. 2nd St., St. Louis, Mo.
National Offset Supply Co., St. Louis, Mo.
Pitman, Harold M., Co., 150 Bay St., Jersey City, N. J., and 51st Ave. and 33rd St., Chicago, Ill.
Sinclair & Carroll Co., Inc., 591 Eleventh Ave., New York, N. Y.

TAX CONSULTANTS

Kromberg & Associates, C. P. A.'s, J., 461 Eighth Ave., New York, N. Y.
Levess, Herbert H., C. P. A., 360 W. 23rd St., New York, N. Y.
Reinish, Samuel S., C. P. A., 2 Lafayette St., New York, N. Y.

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Simplex Time Recorder Co., Inc., 50 S. Lincoln St., Gardner, Mass.

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TRANSFER PAPER

International Printing Ink Corporation, 75 Varick St., New York, N. Y.
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National Offset Supply Co., St. Louis, Mo.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.
Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.
Sinclair & Valentine Co., 11 St. Clair Pl., New York, N. Y.

TRANSFER PROOFS—TYPE IMPRESSIONS

Litho Typesetting Co., 325 W. Ohio St., Chicago, Ill.
Monsen, Thormod and Son, Inc., 730 N. Franklin St., Chicago, Ill.
New York Type Transfer Service, 561 Broadway, New York, N. Y.

TUSCHE

International Printing Ink Corporation, 75 Varick St., New York, N. Y.
Korn, Wm., Inc., 120 Center St., New York, N. Y.
National Offset Supply Co., St. Louis, Mo.
Senefelder Company, Inc., The, 32-34 Greene St., New York, N. Y.

Method of and Apparatus for Planographic Printing. H. C. Osborn. *U. S. Patent* No. 2,102,641 (Dec. 21, 1937). In a planographic press wherein the image-carrying member comprises a metallic plate, one dampening roller in contact with such printing plate, said roller having a surface of a material which is resilient and at the same time non-absorptive, and means for adjusting the pressure of said roll against the plate to cause a squeegee action.

Paper and Ink

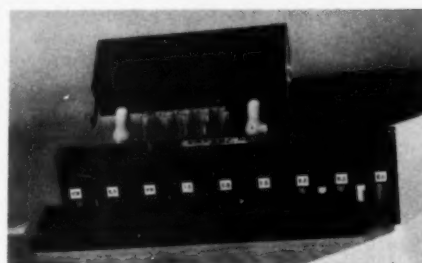
To Air-Condition or Not, That's the Litho Question. A. H. Reiser. *Lithographer's Journal*, 22, No. 6, Sept. 1937, pp. 255, 259. The advantages of controlling the humidity of air and paper and the advisability of air conditioning in a lithographic plant are stressed. Difficulties and uncertainty result when attempts are made to correct ink and paper troubles by adding to the ink various foreign substances such as oil, butter, milk, cream of tartar, and the like.

Ink Problems of the Lithographer. Anonymous. *THE PHOTO-LITHOGRAPHER*, 5, No. 9, Sept. 1937, p. 52. The causes of ink troubles include insufficient denseness, faulty grinding of pigment, and amateur doctoring of ink. It is rarely necessary to add to ink any substance other than the proper grade of litho varnish or an accepted drier. The ink manufacturer is best qualified to make recommendations on the proper treatment of his product.

Color and Ink. L. M. Larsen and F. A. Weymouth. *American Ink Maker*, 15, No. 9, September, 1937, pp. 44-7, 61. The terms used in ink manufacture are defined, and the characteristics of dyestuffs, pigments, and vehicles are discussed in their relationship to good printing results by the various processes.

pH Properties of Colloidal Carbon. W. B. Wiegand. *American Ink Maker*, 15, No. 9, Sept. 1937, pp. 59, 61. The hydrogen ion concentration (pH value) of carbon

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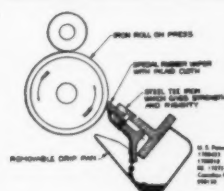
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Smith & Corona Typewriter, Inc., L. C., Syracuse, N. Y.

Underwood Elliott Fisher Company, 1 Park Ave., New York, N. Y.

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Rutherford Machinery Co., Div. General Printing Ink Corp., 100 Sixth Ave., New York, N. Y.

Sullebarger, E. T., Co., 116 John St., New York, N. Y., and 538 S. Clark St., Chicago, Ill.

Sweigard Ideal Co., 6122 N. 21st St., Phila., Pa.

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Zarkin Machine Co., 335 E. 27th St., New York, N. Y.

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Carter, C. W. H., 100 Varick St., New York, N. Y.

Hilo Varnish Co., 42-60 Stewart Ave., Brooklyn, N. Y.

National Offset Supply Co., St. Louis, Mo.

Roosen Co., H. D., Ft. of 20th & 21st St., Brooklyn, N. Y.

Siebold, Inc., J. H. & G. B., 47 Watts St., New York, N. Y.

Sinclair & Carroll Co., Inc., 591, Eleventh Ave., New York, N. Y.

Sinclair & Valentine Co., 11 St. Clair Pl., New York, N. Y.

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Wesel Mfg. Co., 468 Fourth Ave., New York, N. Y., and Scranton, Pa.

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Developments in Offset Inks. J. Beckett. *THE PHOTO-LITHOGRAPHER*, 5, No. 10, Oct. 1937, pp. 28, 56. Types of research carried on in ink laboratories are described in general terms. Such work falls naturally into two classes—pigment research and ink vehicle research. The main problems under investigation in these fields are described briefly.

High Gloss Inks. R. C. Chandler. *American Ink Maker*, 15, No. 9, Sept. 1937, pp. 39-41, 77. For the best results with high gloss inks, it is important to choose hard-calendered, rather heavily sized paper. Coated paper should be coated with a good grade of satin white bound with a protein binder. When porous papers are employed, special high gloss inks should be used having high resin content and proper type and amount of drier for such work. The requirements for high gloss inks are given, and the materials and methods used in preparing such inks are discussed. A brief description of methods of comparing and evaluating gloss is included.

General

Fire and Toxicity Hazards of Lithographic Chemicals. P. H. Staub. *THE PHOTO-LITHOGRAPHER*, 5, No. 9, Sept. 1937, pp. 31-3, 135. The fire and poison hazards of the dangerous chemicals used in lithography are discussed and listed in a convenient tabular form. Types of poisoning, symptoms, precautions, and first aid treatments are given.

Chemicals and Mercury. Anonymous. *Printing Equipment Engineer*, 54, No. 6, Sept. 1937, p. 28. Precautions to be observed in handling nitric acid, mercury, chromic acid, and cyanides are suggested.

Photo-Engraving Chemical Hazard Table. (Merck & Co.). *Printing Equipment Engineer*, 54, No. 6, Sept. 1937, p. 26. The poisonous chemicals used in photo-engraving are tabulated, showing types of poisoning, symptoms, precautions, and first aid treatments. Fire hazards involved are also enumerated.

Original Copy Versus Quality. W. A. Markert. *THE PHOTO-LITHOGRAPHER*, 5, No. 9, Sept. 1937, pp. 46-48; No. 10, Oct. 1937, pp. 31, 33, 59. The necessity for good copy for type reproduction by offset is stressed. Suggestions

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for preparing type proofs are given, and the preparation of suitable typewritten copy is also discussed.

The Reproduction of Unsuitable Originals. H. Schimkowitz. *Reproduktion*, 7: 145-7, September, 1936. Suggestions are given to improve or facilitate reproduction from originals that are difficult to reproduce: Line drawings are redrawn or retouched. Pencil drawings give trouble because of specular reflection from the graphite, which is corrected by partial reduction of collodion emulsion negatives, or retouching on matte films. Water-color sketches with crisp, broken tones are more difficult to reproduce than smooth, unbroken effects. When artists juxtapose colors that photograph alike, the retoucher is unable to follow them. The limitations of the reproduction process should be considered when creating originals. (*Monthly Abstract Bulletin of Eastman Kodak Company* 23, pp. 439-40 (1937).)

Miscellaneous

Photo-Mechanical Printing-Surfaces. V. F. Feeny. *British Patent* No. 472,415 (Accepted April 6, 1936). Intaglio printing plates are prepared from half-tone plates, half-tone prints or in the case of multicolor printing, a set of proofs from the color separation plates, the dot formation of which is not suitable for intaglio printing, by producing a negative or set of negatives from the original using a camera in which the lens is adjusted so that the image is sufficiently distinct but the dots are blurred and copying the negative through a half-tone screen placed at such a distance from the ground glass screen used to make the adjustment and occupy the position subsequently to be occupied by the light sensitive surface, that pin-point dots appear in the light areas of the ground glass screen, the resulting position having a new set of disconnected and sharply defined dots of varying size which in the etched plate leave continuous ribs between them to support the doctor blade. In carrying out the process as applied to a set of plates for multicolor work proofs are made from each of the plates and are copied in a camera with the lens slightly out of focus so as to blur the dots. The negatives are then recopied through a half-tone screen arranged as above.

Photo-Mechanical Resist. A. Murray. *U. S. Patent* No. 2,091,715 (Aug. 31, 1937). A photo-mechanical resist comprising a crystallizable, halogen-free, organic, light-sensitive substance capable of autogenic formation of insoluble, chemically resistant, non-crystalline products of higher melting point when exposed to light, together with a synthetic wax soluble in the resist mixture and a chemically indifferent substance which inhibits the crystallization of the light sensitive materials, so that said light sensitive material is maintained in a non-crystallized state during exposure, the wax being homogeneously dissolved in the resist in the amount of approximately 11% of the amount of solids in the resist.

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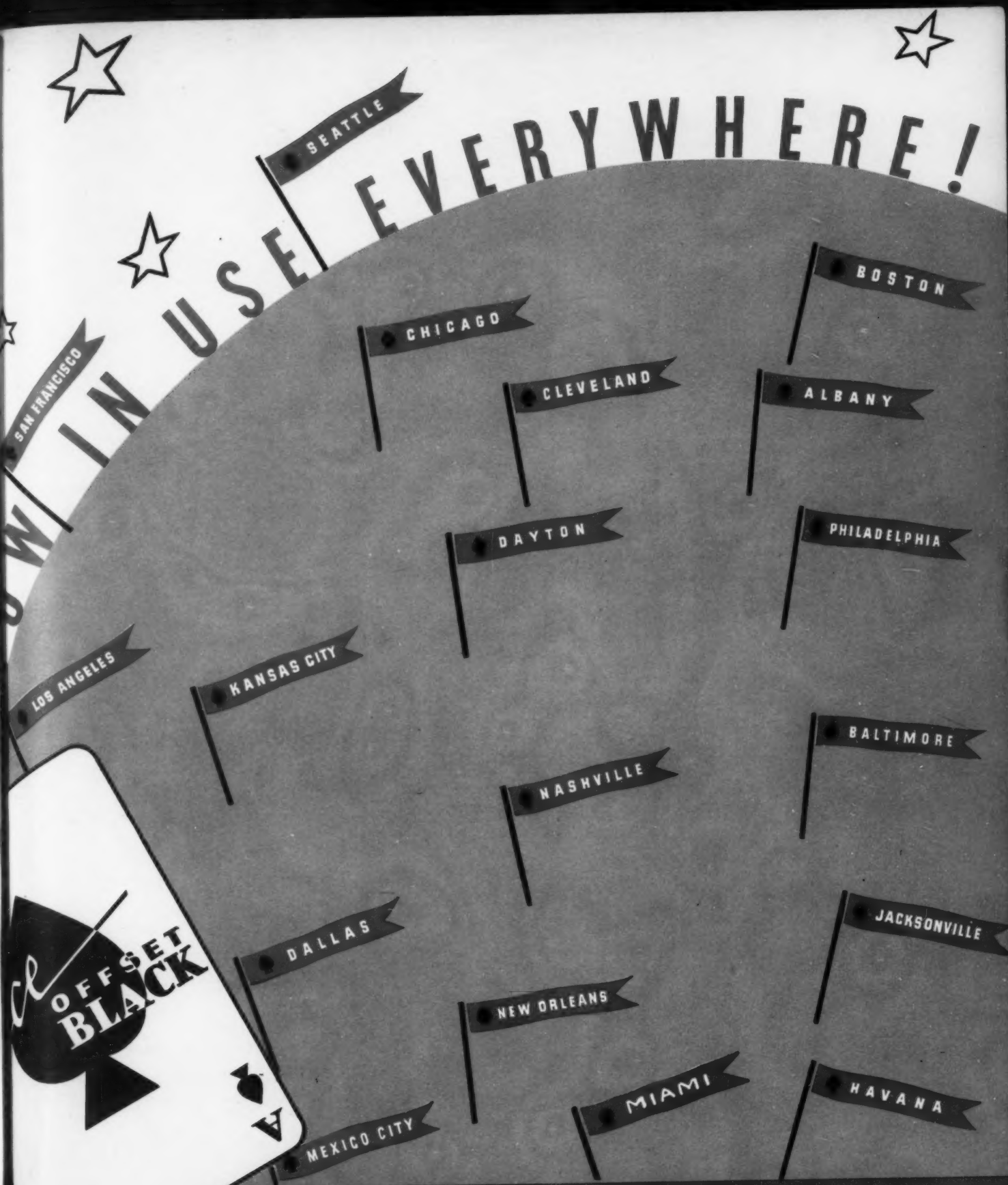
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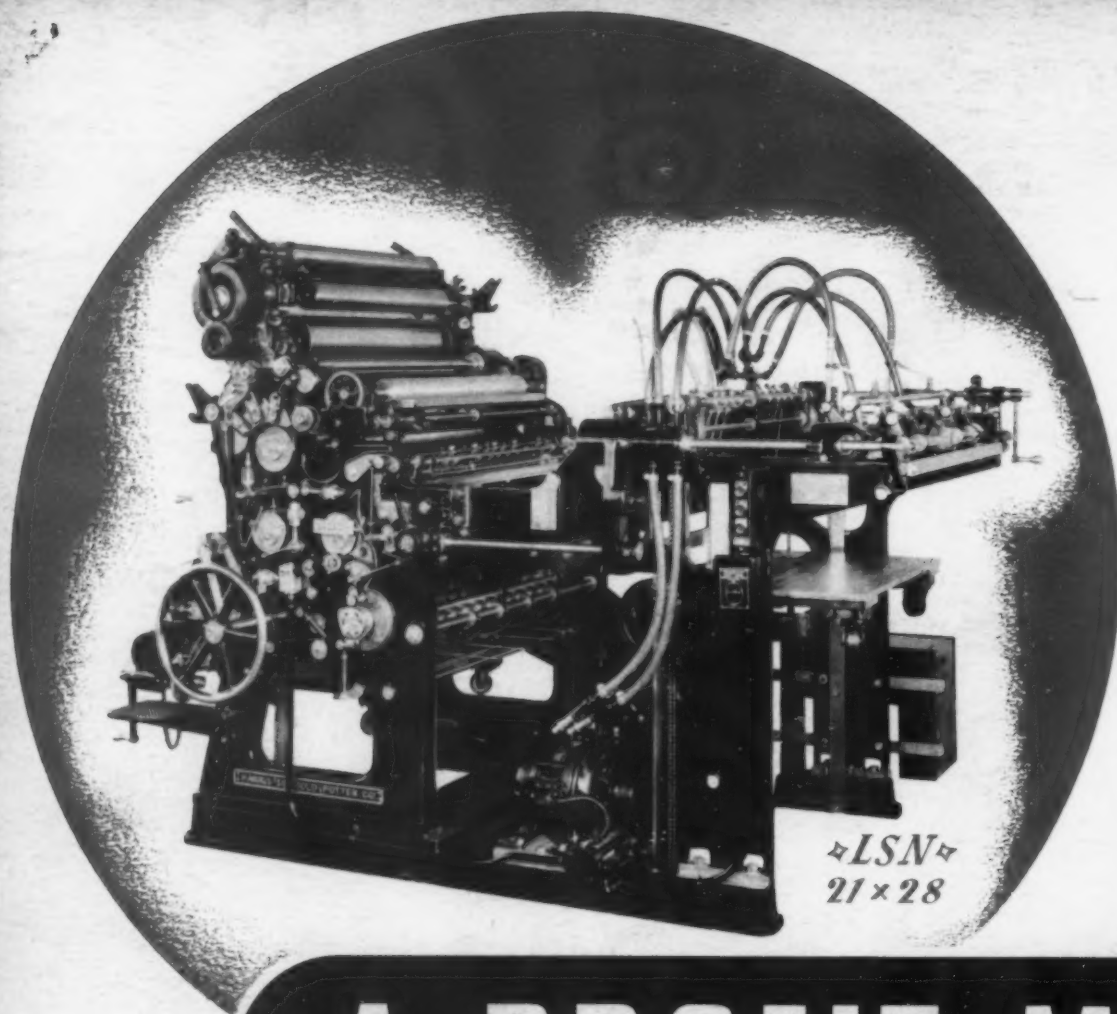
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